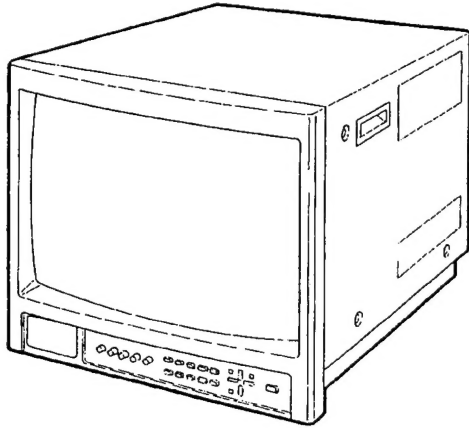


# Service Manual



Colour Video Monitor  
**BT-M2090Y**

**Chassis No. BT**

The service technician is required to read and follow the "Safety Precautions" and "Important Safety Notice" in this service manual.

## Specifications

**System:** NTSC 3.58MHz/NTSC 4.43MHz/PAL

**Power Source:** AC 230V (220~240V) 50/60Hz

**Max Amps:** 0.6A

**Picture Tube:**

50cm measured diagonally, 90° deflection,  
in-line gun, medium-high-definition cathode-ray,  
"tube" trio-dot type (dot pitch of 0.4mm), EBU  
standard phosphor

**Audio Power**

**Output:** 1.6W

**Built-in**

**Speaker:** 9×5 cm (3-9/16"×2") oval×1

**Screen Size**

**(W×H):** 399mm×298mm  
(15-11/16"×11-3/4")

**Scanning Frequency:**

H: 15.734kHz (NTSC 3.58/4.43MHz)  
15.625kHz (PAL)

V: 59.94Hz (NTSC 3.58/4.43MHz)  
50Hz (PAL)

**Horizontal Resolution:**

750 TV lines or more

**Color**

**Temperature:** 6500k ; x=0.313, y=0.329  
9300k ; x=0.283, y=0.297  
(selectable)

## Video Inputs

**Composite Video:**

INPUT A, B (2 lines), BNC×2 each  
(with 1 bridge-connected output)  
Termination switches provided 1.0 Vp-p, 75Ω,  
negative sync

**Y/C:**

Y/C (1 line), DIN (4-pin)×2  
(with 1 bridge-connected output)  
Termination switch provided  
Y; 1.0Vp-p, 75Ω, negative sync  
C (NTSC 3.58/4.43MHz);  
0.286Vp-p, 75Ω  
C (PAL); 0.3Vp-p, 75Ω

**Analog RGB:**

RGB/COMPO (SDI)  
(1 line: common with Y, R-Y, B-Y component)  
BNC×6  
(with 3 bridge-connected output)  
Termination switches provided  
R, B; 0.7Vp-p, 75Ω  
G; 0.7Vp-p, 75Ω  
G on sync; 1.0Vp-p, 75Ω, negative sync

**Y, R-Y, B-Y Component:**

RGB/COMPO  
(1 line: common with analog RGB)  
Y; 1.0Vp-p, 75Ω, negative sync  
R-Y, B-Y; 0.7Vp-p, 75Ω

# Panasonic

**⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

**External Sync Input:**

SYNC (1 line)  
BNC×2 (with 1 bridge-connected output)  
0.2~4.0Vp-p composite sync, 75Ω, negative  
sync Termination switches provided

**Audio inputs:** AUDIO A, B RGB/COMPO (3 lines),  
RCA×2 each  
(with 1 bridge-connected output)  
500mVrms, high impedance

**Tally/Remote Terminal:**

TALLY/REMOTE, DIN (8-pin)×1

**Operation**

**Temperature:** 0°C~+40°C (32°F~104°F)  
(20~80% RH)

**Dimensions**

**(W×H×D):** 449mm×431mm×511mm  
(17-3/4"×17"×20-1/8")

**Weight:** 30kg (66lbs)

**Provided**

**Accessory:** Power Cord×1

Specifications are subject to change without notice.  
Weight and dimensions shown are approximate.

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# SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (  $\Delta$  ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Don't short between the LIVE side ground and ISOLATED(NEUTRAL) side ground or EARTH side ground when repairing.**  
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (  $\perp$  ) side GND, the ISOLATED(NEUTRAL) : (  $\nwarrow$  ) side GND and EARTH : (  $\oplus$  ) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.  
If above note will not be kept, a fuse or any parts will be broken.
5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B<sub>1</sub> POWER SUPPLY).
6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10k $\Omega$  2W resistor to the anode button.
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

## 9. Isolation Check

### (Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

### (1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.

(. . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

### (2) Leakage Current Check

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

#### • Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.35V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

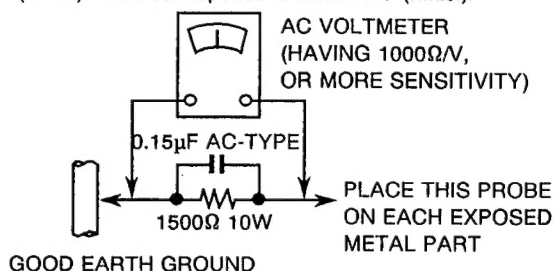
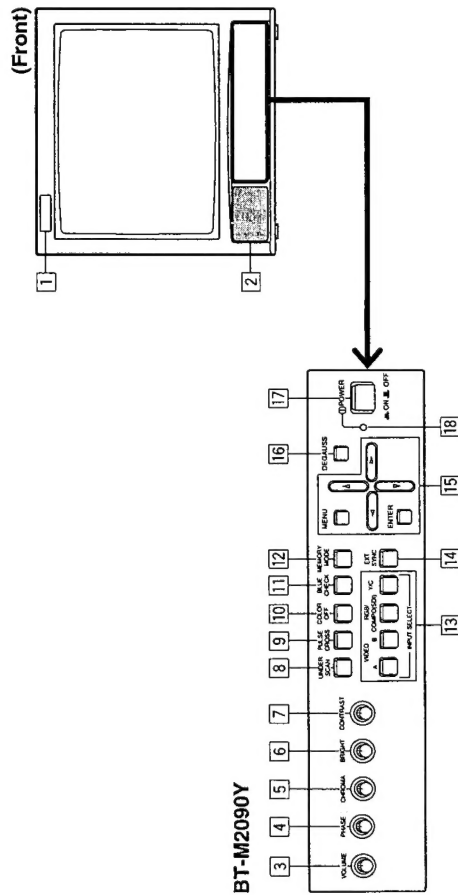


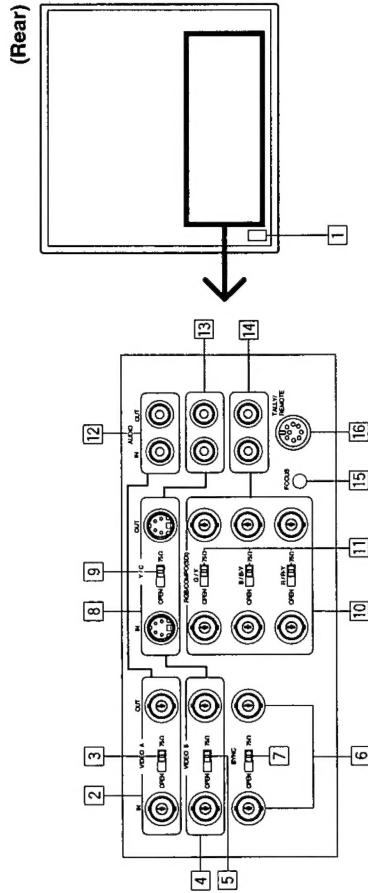
Fig.A

## CONTROLS AND FEATURES (FRONT)



- 1 Tally lamp**  
Glow to indicate when a tally signal is input to the TALLY/REMOTE terminal on the rear panel.
- 2 Speaker**
- 3 VOLUME control**  
Turn to adjust speaker volume.
- 4 PHASE control**  
Turn to adjust picture hue, using natural skin colour as a reference.
- 5 CHROMA control**  
Turn to adjust picture colour density according to your requirements.
- 6 BRIGHT control**  
Turn to adjust picture brightness according to your requirements.
- 7 CONTRAST control**  
Turn to adjust the picture contrast according to your requirements.
- 8 UNDER SCAN switch**  
Push to display the whole picture on screen by reducing display area dimensions.
- 9 PULSE CROSS switch**  
Push to check the retrace period (sync signal) by delaying input signal phase.
- 10 COLOR OFF switch**  
Push to eliminate colour signals and display a black-and-white picture.
- 11 BLUE CHECK switch**  
Push to eliminate red and green colour signals and display a monochrome blue picture.
- 12 MEMORY MODE switch**  
Push to adjust the picture by recalling the adjustment data that you stored in memory.
- 13 INPUT SELECT switches**  
Push to select a rear terminal video signal input.
- 14 EXT SYNC switch**  
Push to synchronise the monitor with an external sync signal. This function is effective regardless of signal input.
- 15 MENU controls**  
Use to operate on-screen menu functions.
- 16 DEGAUSS switch**  
Push to demagnetise the picture tube.
- 17 POWER switch**  
Press to turn the power on or off.
- 18 POWER indicator**  
Glow to indicate that power is on.

## TERMINALS AND FEATURES (REAR)

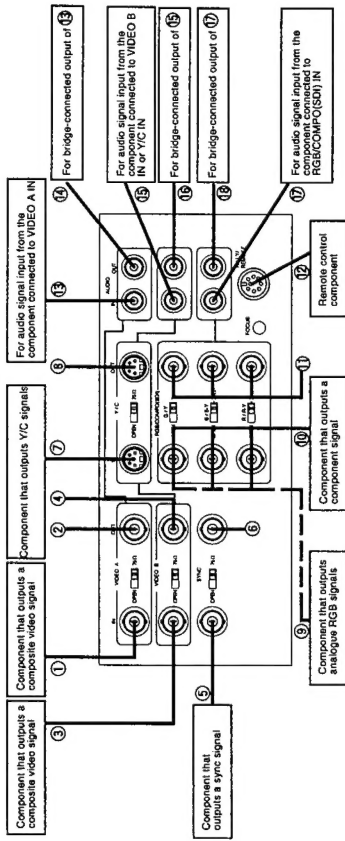


- 1 Power socket**  
Connect to an AC outlet (230 V(220 - 240 V) AC, 50/60 Hz) using the provided power cord.
- 2 VIDEO A terminals**  
Composite video signal input terminal and bridge-connected output terminal.
- 3 VIDEO A termination switch**  
Set to OPEN for bridged connection; set to 75Ω for input signal only.
- 4 VIDEO B terminals**  
Composite video signal input terminal and bridge-connected output terminal.
- 5 VIDEO B termination switch**  
Functions as for [3].
- 6 SYNC terminals**  
External sync signal input terminal and bridge-connected output terminal. Input an external composite sync signal to these terminals when inputting a video signal without a sync signal, or when synchronising the monitor with an external sync signal.
- 7 SYNC termination switch**  
Functions as for [3].
- 8 Y/C terminals**  
Input terminal of Y/C signals and bridge-connected output terminal.
- 9 Y/C termination switch**  
Functions as for [3].
- 10 RGB/COMPO(SDI) terminals**  
Input terminal of analogue RGB signals or Y/B-Y/R-Y signals and bridge-connected output terminal. For analogue RGB signals, also accepts a G signal including a sync signal.
- 11 RGB/COMPO(SDI) termination switch**  
Functions as for [3].
- 12 AUDIO A terminals**  
Audio signal input terminal and bridge-connected output terminal. Linked with the VIDEO A terminals so that AUDIO A terminals and VIDEO A terminals are selected simultaneously.
- 13 AUDIO B terminals**  
Audio signal input terminal and bridge-connected output terminal. Linked with the VIDEO B or Y/C terminals so that AUDIO B terminals and VIDEO B or Y/C terminals are selected simultaneously.
- 14 AUDIO RGB/COMPO(SDI) terminals**  
Audio signal input terminal and bridge-connected output terminal. Linked with the RGB/COMPO(SDI) terminals so that AUDIO RGB/COMPO(SDI) terminals and RGB/COMPO(SDI) terminals are selected simultaneously.
- 15 FOCUS control**  
Adjustment hole exclusively for use by service personnel. Make sure to consult qualified service personnel for adjustment.
- 16 TALLY/REMOTE terminal**  
External input terminal of a tally signal to make the tally lamp glow, or of a remote-control signal to switch input or picture control.



# CONNECTION EXAMPLE

- Be sure to turn off each component's power before connection.
- The connection shown below is only an example. Terminals and their functions differ in accordance with a component to be connected. Also read and follow the instructions for the component.



Signal(s)	Terminal	Function
① Composite video	VIDEO A IN	Input of a composite video signal
② Composite video	VIDEO A OUT	Bridge-connected output of ①
③ Composite video	VIDEO B IN	Input of a composite video signal
④ Composite video	VIDEO B OUT	Bridge-connected output of ③
⑤ Composite sync	SYNC IN	Input of an external sync signal
⑥ Composite sync	SYNC OUT	Bridge-connected output of ⑤
⑦ Y/C	Y/C IN	Input of Y/C signals
⑧ Y/C	Y/C OUT	Bridge-connected output of ⑦
⑨ Analogue RGB	RGB/COMPO(SD) IN	Input of analogue RGB signals
⑩ Component	RGB/COMPO(SD) IN	Input of a component signal
⑪ Analog RGB or component	RGB/COMPO(SD) OUT	Bridge-connected output of ⑨ or ⑩
⑫ Tally/remote control	TALLY/REMOTE	Input of a tally signal or remote control signal

## External/Internal synchronisation

Push the front panel EXT SYNC switch to ON, and the monitor operates to synchronise with an external sync signal input to the rear panel SYNC IN terminal.

Push the switch again to OFF, and the monitor operates to synchronise with a sync signal included in a video signal (if it includes a sync signal) input via a video input terminal.

## RGB/COMPO(SD) terminal setting

Set RGB or COMPO. on screen to match the type of video signal input to the rear panel RGB/COMPO(SD) IN terminals.

To input analogue RGB signals, set to RGB.

To input Y, B-Y or R-Y signal, set to COMPO..

Operation:

1. Press the front panel MENU button to call up the MENU display on screen.
2. Press the ▲ or ▼ button to select RGB/COMPO(SD).
3. Press the ◀ or ▶ button to set RGB or COMPO..

# BASIC OPERATION

## 1. To turn the power on:

Push the **POWER switch**.

The POWER indicator glows green. The mode and colour system of an input signal are automatically discerned and displayed on screen for about 3 seconds. To turn off power, push the POWER switch again, and the POWER indicator goes off.

## 2. To select the input:

Push an **INPUT SELECT switch**.

Push VIDEO A, VIDEO B, RGB/COMPO(SD) or Y/C. The mode and colour system of a selected input signal are automatically discerned and displayed on screen for about 3 seconds.

## 3. To adjust the audio level:

Turn the VOLUME control to the right to increase the level, or to the left to decrease the level.

● Relation between input mode indication and signal input/terminal

Input mode indication	Signal input/terminal
VIDEO A	Composite video signal input to VIDEO A IN
VIDEO B	Composite video signal input to VIDEO B IN
Y/C	Y/C signal input to Y/C IN
RGB	Analogue RGB signal input to RGB/COMPO(SD) IN
COMPO(SD)	Component signal input to RGB/COMPO(SD) IN

● Colour system indication

Indication	Colour system	Colour sub-carrier frequency	Vertical scanning frequency
NTSC	NTSC	3.58 MHz	60 Hz
PAL	PAL	4.43 MHz	50 Hz
N4.43	NTSC	4.43 MHz	60 Hz
BW	(Indicates when a black-and-white signal is input)		
NO SYNC	(Indicates when no signal is input)		



- This function is not effective if activated a second time after a very short time has elapsed. When degaussing must be repeated, proceed after at least 10 minutes have passed since first degaussing.

## To demagnetise the picture tube

After positioning near the monitor a speaker (non-magnet-shielded) or other equipment that generates a strong magnetic field, or after relocating the monitor, colour patches could appear in the picture due to magnetisation of the picture tube. If this occurs, push the DEGAUSS switch to demagnetise the picture tube.

<MENU>	
ASPECT RATIO	:4:3
FILTER SELECT	:COMB
PEAKING FREQ.	:2.6MHz
PEAKING LEVEL	:0dB
AFC	:NORMAL
COLOR TEMP.	:6500
NTSC SETUP	:0
COMPO. LEVEL	:SMPT
<MEMORY MODE>	
▶ RGB / COMPO(SD)	:RGB
▶ DEGAUSS	:DE

PICTURE ADJUSTMENTS

Turn a separate front panel control to adjust picture contrast, picture brightness, picture colour density, and picture hue respectively:

CONTRAST (picture contrast) \_\_\_\_\_

Softer  Clearer

BRIGHT (picture brightness) \_\_\_\_\_

Darker  Brighter

CHROMA (picture colour density) \_\_\_\_\_

Thinner  Denser

PHASE (picture hue) \_\_\_\_\_

Purplish  Greenish



- To adjust the CHROMA and PHASE controls more precisely, input the colour bar signal and operate the BLUE CHECK function as follows:

After inputting the colour bar signal, push the front panel BLUE CHECK switch to display a monochrome blue picture without red/green signal components. Turn the CHROMA and PHASE controls so that all (four, in the example below) blue bars have the same density and brightness.

Blue	Black	Blue	Black	Blue	Black	Blue

Relation between picture adjustments and input video signals

Each picture adjustment is effective for the following video signal input:

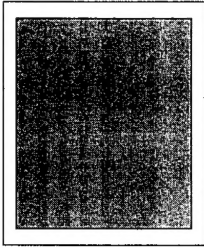
Signal Control	Composite video, Y/C				RGB		COMPONENT
	NTSC	PAL	NTSC 4:43	B/W	RGB	COMPONENT	
PHASE	Yes	No	Yes	No	No	No	No
CHROMA	Yes	Yes	Yes	No	No	No	Yes
BRIGHT	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CONTRAST	Yes	Yes	Yes	Yes	Yes	Yes	Yes

VIDEO SIGNAL CONTROLS

Push each switch to ON or OFF for video signal control.

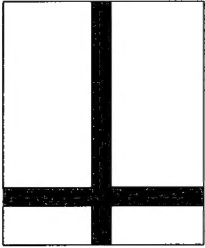
UNDER SCAN

Push the UNDER SCAN switch to reduce the dimensions of display area so the whole picture is displayed on screen. Use to check the picture frame.



PULSE CROSS

Push the PULSE CROSS switch to simultaneously display two blank areas crossed horizontally and vertically on screen ("Pulse Cross" display) by delaying the phase of the input signal. Use to check the vertical retrace line period, equalizing pulse period, vertical sync period, horizontal sync pulse, or burst signal.



- This function is not effective for analogue RGB signal input.

COLOR OFF

Push the COLOR OFF switch to display a black-and-white picture by inputting a luminance signal only. Use to check the noise contained in a luminance signal or white balance.



- This function is not effective for analogue RGB signal input.

BLUE CHECK

Push the BLUE CHECK switch to display a monochrome blue picture by eliminating red and green signal components. Use to check or adjust the CHROMA and/or PHASE controls.

# ON-SCREEN MENU CONTROLS

By calling up the menu display on screen, various functions can be selected and set as needed.

## Calling up the menu display, selecting an item

1. Press the MENU button to call up the menu display on screen (see [1] below).  
(Press again to make the display disappear.)
2. Press the ▲ or ▼ button to select an item to be set. "▶" is indicated for the selected item.
3. Press the ◀ or ▶ button to change the setting.
4. After selecting another item by pressing the ▲ or ▼ button, repeat step 3.  
These settings are all kept in memory after power is turned off.
5. Press the MENU button to complete. The menu display disappears.



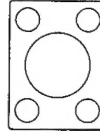
- When the menu display [1] (shown at left below) is on screen, press the ENTER button. The display changes to [2] (shown below centre). In this state, you can also select the item or change the setting.
- When the display [2] is on screen, each time the ▼ button is pressed while the ENTER button pressed, the indication moves up or down on screen (the display [3]). Press the MENU button with display [2] or [3] on screen, and the display is restored to [1].
- If no operation occurs for about 5 minutes after calling up the menu display on screen, the display disappears automatically.

<p>(MENU) ASPECT RATIO :4:3 FILTER SELECT :COMB PEAKING FREQ. :2.5MHZ PEAKING LEVEL :0dB ▶AFC :NORMAL COLOR TEMP. :6500K NTSC SETUP :0 COMPO. LEVEL :SMPT (MEMORY MODE) RGB/COMPO(SDI) :RGB :0</p>		:NORMAL
--	--	---------

## ASPECT RATIO (picture aspect ratio switching)

The aspect ratio of the picture can be switched between 4:3 and 16:9. When switching to "16:9" on screen, the height of the picture is slightly reduced (see right).

Setting	Function
4:3	Standard picture aspect ratio (4:3)
16:9	Displays the picture in 16:9 aspect ratio



• 4:3

• 16:9



- The function can be operated and the indication appears only when a composite video signal of the NTSC system (excluding NTSC 4.43) is input to the monitor.

## FILTER SELECT (built-in filter selection)

When a composite video signal of the NTSC system (excluding NTSC 4.43) is input to the monitor, either or both of two filters in the monitor can be activated.

Setting	Function
COMB (comb filter)	Reduces colour noise in NTSC video signals for clearer pictures.
BOTH (both filters)	Both comb and trap filters function at the same time.
NOTCH (Trap filter)	Eliminates dot interference that would show up in the vertical boundary between two different colours.

# ON-SCREEN MENU CONTROLS (continued)



- When analogue RGB signals are input to the monitor, the indications do not appear and the functions cannot be operated.

## PEAKING FREQ./PEAKING LEVEL (picture quality improvement)

Corrects the luminance signal to improve picture quality by changing peak frequency and/or peak level depending on the video signal input to the monitor. Use PEAKING FREQ. to set correction frequency. Use PEAKING LEVEL to set correction level.

Setting (frequency)	Function
2.6 MHz	For composite video signal or Y/C signal.
5.0 MHz	For component video signal.

Setting (level)	Function
0 dB to +9 dBs	Set a higher level for correction to a higher degree.



- By changing the default setting of white balance adjustment under the SET-UP MENU display (see page 15 for adjustment), the \* indication is added to the right of the setting to indicate that the factory-preset setting was changed.

## AFC (switching of time constant for the AFC)

Use to set the time constant for the AFC (auto fine-frequency control) to correct skew distortion of video signals input via a videotape recorder or other video equipment.

Setting	Function
NORMAL	Normal-speed correction.
FAST	Faster correction.
SLOW	Slower correction.

## COLOR TEMP. (colour temperature switching)

Use to set the colour temperature of white balance.

Setting	Function
9300	To 9300K.
6500	To 6500K.

(MENU) ASPECT RATIO :4:3 FILTER SELECT :COMB PEAKING FREQ. :2.5MHZ PEAKING LEVEL :0dB ▶AFC :NORMAL COLOR TEMP. :6500K NTSC SETUP :0 COMPO. LEVEL :SMPT (MEMORY MODE) RGB/COMPO(SDI) :RGB :0
---



- The item and setting are indicated on screen and the function can be operated only when a video signal of the NTSC system is input to the monitor.

## NTSC SETUP (NTSC set-up level)

Use to set up the luminance signal level to match the configuration of the video signal input to the monitor.

Setting	Function
0	For video signal with 0% luminance signal
7.5	For video signal with 7.5% luminance signal

## COMPO. LEVEL (chrominance level setting)

Use to set the chrominance level of a component video signal.

Setting	Function
SMPT	For component video signal input via an MJ videotape recorder.
BETA00	For component video signal input (set-up level: 0%) via a BETACAM videotape recorder.
BETA75	For component video signal input (set-up level: 7.5%) via a BETACAM videotape recorder.



- The item and setting are indicated on screen and the function can be operated only when a component video signal is input to the monitor.

# MEMORY MODE

A set of picture settings can be programmed in memory for quick recall when necessary.

## Recall/release of memory mode

Press the MEMORY MODE switch to recall a set of picture settings programmed in memory.

Pressing the switch locks the functions of the front-panel PHASE, CHROMA, BRIGHT, CONTRAST controls, and remote-control picture adjustments not to be operated.

Press again to release memory mode.

## Setting programming of the picture being monitored

The settings of the picture being monitored can be programmed in memory.

Settings programmable in memory mode:

- Settings of the CONTRAST, BRIGHT, CHROMA and PHASE controls on the front panel
- On-screen menu function settings (except RGB/COMPO(SDI))
- Remote-control picture adjustment settings

1. Check the MEMORY MODE switch is off.
2. Press the MENU button.
3. Press the ▲ or ▼ button to select MEMORY MODE. Then press the ENTER button.
4. ● Press the ENTER button to programme.  
● Press the ◀ or ▶ button to cancel.

## Revision of memory mode

Programmed picture settings can be revised if necessary.

1. Press the MEMORY MODE switch to activate memory mode.
2. Press the MENU button to call up display 1 on screen.



- If you attempt to operate a locked function, "MEMORY MODE ON!" appears on screen for approx. 2 seconds to indicate the function cannot be operated.



- Programmed picture settings are kept in memory after the power is turned off.

MEMORY MODE

Are you sure ?

"Yes" then ENTER  
"No" then 3 or 8



- No matter what video signal is input, all items appear on screen. However, depending on the type of input video signal, some functions might not operate even if their settings are made.

MEMORY MODE REVISE  
▶ PICTURE ADJUSTMENT  
ASPECT RATIO :4:3  
FILTER SELECT :COMB  
PEAKING FREQ. :2.6MHz  
PEAKING LEVEL :0dB  
AFC :NORMAL  
COLOR TEMP. :6500  
NTSC SETUP :0  
COMPO. LEVEL :SMPT  
ENTER

1

# MEMORY MODE (continued)

3. Press the ▲ or ▼ button to select a function to be revised.

Press the ENTER button after selecting PICTURE ADJUSTMENT to call up display 2.

After making all settings on screen, press the MENU button to make display 3 appear.

4. Press the ◀ or ▶ button to change the set level.

Adjustable CONTRAST, BRIGHT, CHROMA or PHASE range depends on each set level previously stored in memory. MAX appears to indicate maximum level that cannot be increased. MIN appears to indicate minimum level that cannot be decreased.

## Variable setting range

Function		Variable setting range	Default set level
PICTURE ADJUSTMENT	CONTRAST	-20 to +20	0
	BRIGHT	-20 to +20	0
	CHROMA	-20 to +20	0
	PHASE	-20 to +20	0
ASPECT RATIO		4:3 16:9	4:3
FILTER SELECT		COMB BOTH NOTCH	COMB
PEAKING FREQ.		2.6MHz 5.0MHz	2.6MHz
PEAKING LEVEL		0dB + 1dB ... +9dB	0dB
AFC		NORMAL FAST SLOW	NORMAL
COLOR TEMP.		9300 6500	6500
NTSC SETUP		0 7.5	0
COMPO. LEVEL		SMPTA BETA00 BETA75	SMPTA



- If the ENTER button is pressed after a function other than PICTURE ADJUSTMENT is selected, the on-screen display changes into a single-line one. To select another function after making a change in function, press the MENU button to restore display 1.

5. With display 3 on screen, press the MENU button to make display 3 appear.

- Press the ENTER button to programme.
- Press the ◀ or ▶ button to cancel.

MEMORY MODE REVISE

Are you sure ?

"Yes" then ENTER  
"No" then 3 or 8

3

## SET-UP FOR MONITOR INSTALLATION

When installing the monitor, make set-up adjustments required for the picture settings to match conditions where the monitor is to be used.

### To call up SET-UP MENU and select a function:

- To make [1] (SET-UP MENU) appear, with the ENTER button pressed, press the MENU button.
- Press the ▲ or ▼ button to select an adjustment item.  
(To set STATUS DISPLAY or CONTROL LOCK, steps 3 and 4 are not necessary.)
- Press the ENTER button to call up the adjustment menu [2] of a selected item (e.g. WHITE BALANCE).
- Press the ▲ or ▼ button to select a function to be adjusted.
- Press the ◀ or ▶ button to change the setting.
- With the display [1] on screen, press the ▲ or ▼ button to select another function and repeat step 5.
- Press the MENU button to complete. SET-UP MENU disappears.
  - To make [1] (SET-UP MENU) disappear:  
Press the MENU button.
  - To make [2] (e.g. WHITE BALANCE) disappear:  
Press the MENU button twice.

NOTE

By making white balance adjustments on SET-UP MENU, \* appears to the right of the COLOR TEMP. setting on MENU

Adjustment (level)	Function
RED DRIVE (-10, -9, ..., 0, ..., +9, +10)	Adjusts the drive level of a red signal component.
GREEN DRIVE (-10, -9, ..., 0, ..., +9, +10)	Adjusts the drive level of a green signal component.
BLUE DRIVE (-10, -9, ..., 0, ..., +9, +10)	Adjusts the drive level of a blue signal component.
RED CUTOFF (-10, -9, ..., 0, ..., +9, +10)	Sets the cut-off voltage of a red signal component.
GREEN CUTOFF (-10, -9, ..., 0, ..., +9, +10)	Sets the cut-off voltage of a green signal component.
BLUE CUTOFF (-10, -9, ..., 0, ..., +9, +10)	Sets the cut-off voltage of a blue signal component.

NOTE

Each time the MENU button is pressed, the previous menu is restored.

Adjustment (level)	Function
RED DRIVE (-10, -9, ..., 0, ..., +9, +10)	Adjusts the drive level of a red signal component.
GREEN DRIVE (-10, -9, ..., 0, ..., +9, +10)	Adjusts the drive level of a green signal component.
BLUE DRIVE (-10, -9, ..., 0, ..., +9, +10)	Adjusts the drive level of a blue signal component.
RED CUTOFF (-10, -9, ..., 0, ..., +9, +10)	Sets the cut-off voltage of a red signal component.
GREEN CUTOFF (-10, -9, ..., 0, ..., +9, +10)	Sets the cut-off voltage of a green signal component.
BLUE CUTOFF (-10, -9, ..., 0, ..., +9, +10)	Sets the cut-off voltage of a blue signal component.



NOTE

Each time the MENU button is pressed, the previous menu is restored.



NOTE

SIZE/CENTERING appears and the function is operable only when monitoring the picture of analogue RGB video signals.

### SIZE/CENTERING (size/positioning adjustments of RGB signal pictures)

For analogue RGB video signal pictures, horizontal size, vertical size, horizontal positioning and vertical positioning can be finely adjusted.

Adjustment (level)	Function
H. POSITION (-10, -9, ..., 0, ..., +9, +10)	+ moves the picture to right. - moves the picture to left.
V. POSITION (-10, -9, ..., 0, ..., +9, +10)	+ moves the picture down. - moves the picture up.
H. SIZE (-10, -9, ..., 0, ..., +9, +10)	+ makes the picture wider. - makes the picture narrower.
V. SIZE (-10, -9, ..., 0, ..., +9, +10)	+ makes the picture higher. - makes the picture lower.

## SET-UP FOR MONITOR INSTALLATION (continued)

### WHITE BALANCE ADJUST (white balance adjustments)

Before making these adjustments, select the colour temperature 9300K or 6500K on MENU.



NOTE

By making white balance adjustments on SET-UP MENU, \* appears to the right of the COLOR TEMP. setting on MENU

Adjustment (level)	Function
RED DRIVE (-10, -9, ..., 0, ..., +9, +10)	Adjusts the drive level of a red signal component.
GREEN DRIVE (-10, -9, ..., 0, ..., +9, +10)	Adjusts the drive level of a green signal component.
BLUE DRIVE (-10, -9, ..., 0, ..., +9, +10)	Adjusts the drive level of a blue signal component.
RED CUTOFF (-10, -9, ..., 0, ..., +9, +10)	Sets the cut-off voltage of a red signal component.
GREEN CUTOFF (-10, -9, ..., 0, ..., +9, +10)	Sets the cut-off voltage of a green signal component.
BLUE CUTOFF (-10, -9, ..., 0, ..., +9, +10)	Sets the cut-off voltage of a blue signal component.

### REMOTE SELECT (TALLY/REMOTE-terminal settings)

Via the TALLY/REMOTE terminal, the tally lamp can be turned on/off, or a function (selected from display [3] shown on the right) can be operated using an external control.

NOTE

By making white balance adjustments on SET-UP MENU, \* appears to the right of the COLOR TEMP. setting on MENU

### INPUT setting indications and selected inputs

NOTE

By making white balance adjustments on SET-UP MENU, \* appears to the right of the COLOR TEMP. setting on MENU

Setting indication	NOT USE	A+*B	A+*Y/C	A+*R/G/B	B+*Y/C	B+*R/G/B	B+*COMPO	Y/C+*COMPO	Y/C+*R/G/B	Y/C+*COMPO	R/G/B+*COMPO	R/G/B+*COMPO	COMPO.
Short-circuit	*	A	A	A	A	B	B	B	Y/C	Y/C	Y/C	Y/C	COMPO.
Open-circuit	*	B	Y/C	R/G/B	COMPO.	Y/C	R/G/B	COMPO.	R/G/B	COMPO.	R/G/B	COMPO.	COMPO.

### CNTL-1/CNTL-2 setting indications and set positions

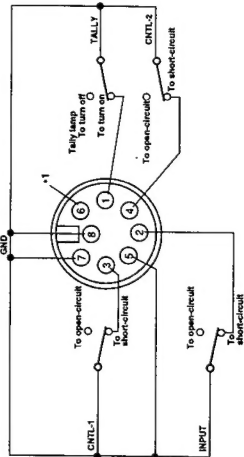
NOTE

By making white balance adjustments on SET-UP MENU, \* appears to the right of the COLOR TEMP. setting on MENU

Setting indication	NOT USE	UNDER SCAN	PULSE CROSS	COLOR OFF	BLUE CHECK	EXTERNAL SYNC	ASPECT RATIO	COLOR TEMP.	AUDIO MUTE
Short-circuit	*	ON	ON	ON	ON	External	16-9	6500	ON
Open-circuit	*	OFF	OFF	OFF	OFF	Internal	4-3	9300	OFF

### TALLY/REMOTE terminal functions

All controls via TALLY/REMOTE terminal are made by short-circuiting or open-circuiting any pin from Pin 1 to 4 and either Pin 7 or 8 (GND each) of this terminal. When using this terminal, be sure to short-circuit Pin 5 and either Pin 7 or 8.



- NOTE
- When the TALLY/REMOTE terminal is used, the following functions become deactivated (except when they are set to "NOT USE"):
  - Front INPUT SELECT and EXTSYNC switches.
  - Front UNDER SCAN, PULSE CROSS, COLOR OFF and BLUE CHECK switches.
  - On-screen MENU's ASPECT RATIO and COLOR TEMP. functions.
  - If a function is applied to both CNTL-1 and CNTL-2, CNTL-1 has priority.
  - \*1: Pin 6 is DC power output pin. It outputs DC 5 V when the monitor's power is on. (Do not short-circuit pin 6 directly to ground.)

## SET-UP FOR MONITOR INSTALLATION (continued)

### STATUS DISPLAY (setting the status display to on/off) —

When the power is turned on or the input mode is switched, the status display (colour system and input mode) appears on screen. The display can be set to on or off.

Setting	Function
ON	Status display appears.
OFF	Status display does not appear.

### CONTROL LOCK (deactivation of front-control functions) —

Set CONTROL LOCK to ON on screen to deactivate the front-control functions (front VOLUME control and remote volume control are operable).

Setting	Function
ON	Deactivates the front controls (except front/remote volume controls).
OFF	Releases deactivated functions.



- If you attempt to operate a locked function, "CONTROL LOCK ON!" appears on screen for approx. 2 seconds to indicate the function cannot be operated.
- Once CONTROL LOCK is deactivated, the current settings of the front-control knobs and buttons are activated.
- If the power is turned off with CONTROL LOCK activated, the function is kept in memory.

## PICTURE SETTING INITIALISATION

MENU and/or SET-UP MENU settings including added changes can be reset (initialised) to their factory-preset conditions.

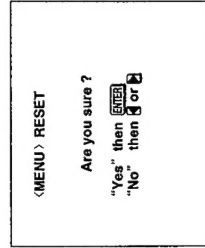


### To initialise MENU settings only —

MENU settings (except MEMORY MODE and RGB/COMPO(SDI)) can be exclusively reset:

1. With the ▼ button pressed, press the MENU button to display [1] on screen.
2. ● Press the ENTER button to reset.
  - Press the ◀ or ▶ button to cancel.

- For factory-presets on the MENU "MENU DISPLAY CHART".



[1]

### To initialise both MENU/SET-UP MENU settings —

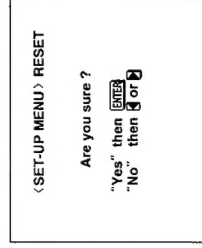
MENU and SET-UP MENU settings other than MEMORY MODE and RGB/COMPO(SDI) can be reset at the same time.

1. Press the POWER switch to turn the power off.
2. With the ▼ and MENU buttons pressed, press the POWER switch to turn the power on. Keep pressing the ▼ and MENU buttons until [2] appears on screen.
3. Press the ▲ or ▼ button to select SET-UP MENU RESET. Then press the ENTER button to display [3] on screen.
4. ● Press the ENTER button again to execute.
  - Press the ◀ or ▶ button to cancel.

※ The function of "ID NUMBER SET" can't use.

<INITIALIZE MENU>  
ID NUMBER SET  
▶<SET-UP MENU> RESET  
ENTER

[2]



[3]



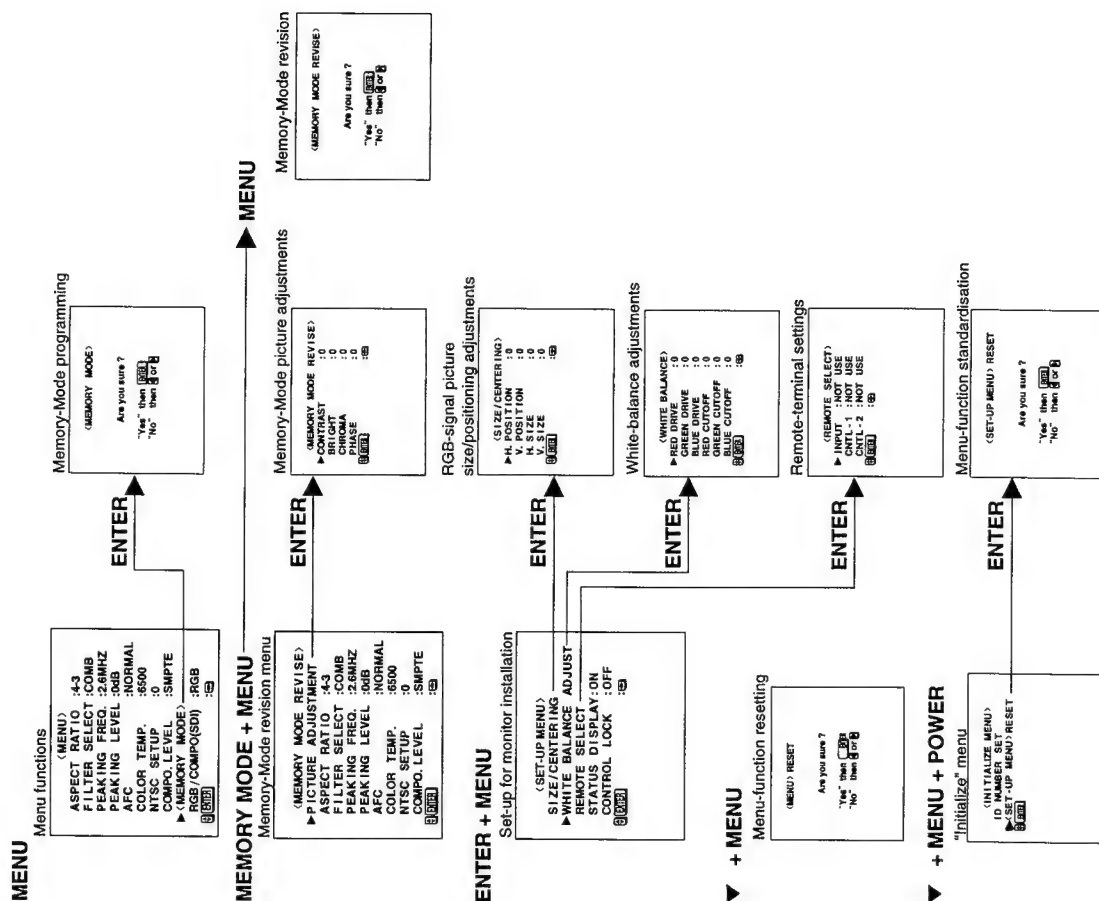
# BEFORE CALLING FOR SERVICE

Before concluding a problem has occurred, check the following points. If the problem persists after carrying out the checks, disconnect the power cord from the AC outlet and consult the dealer from whom you purchased the monitor.

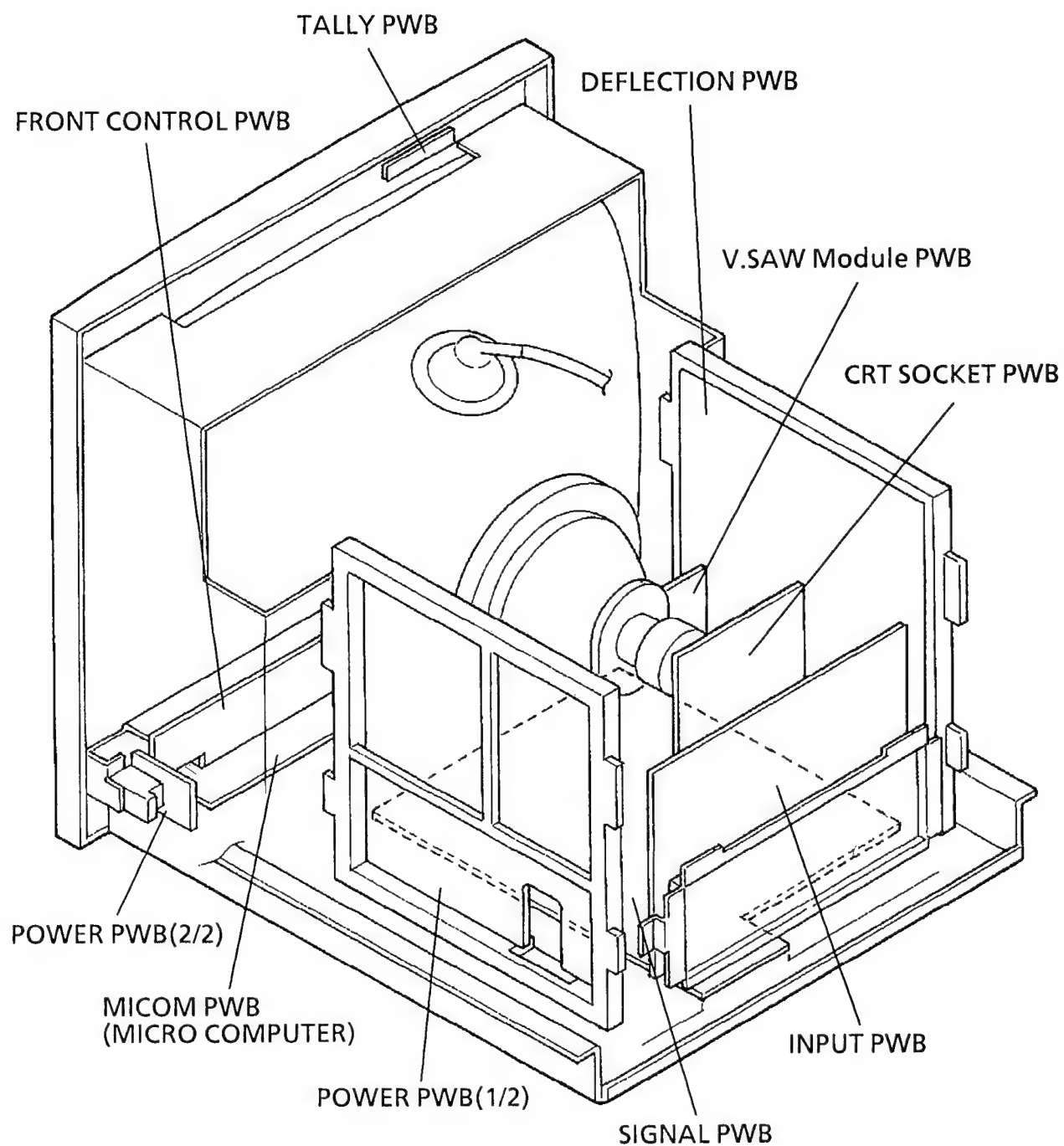
Problems	Points to be checked	Measures
Inoperable adjustment controls or buttons.	Is MEMORY MODE switched on? Is CONTROL LOCK activated?	Switch off. Deactivate it.
Abnormal picture adjustments with all controls at centre.	Are PICTURE ADJUSTMENT of MEMORY MODE REVISE menu setting changed?	Reset to standard settings.
Inoperable picture synchronisation.	Is EXT SYNC switched on?	Switch to off.
No sound via audio signal input.	Does the audio input terminal match the video input terminal?	Each audio input terminal is linked with a video input terminal.
No INITIALIZE MENU display.	Are you pressing the ▼ and MENU buttons until it appears?	Keep pressing these buttons until it appears.
Inoperable CNTL-2 external control via TALLY/REMOTE terminal.	Is a function applied common to CNTL-1 and CNTL-2?	Set other functions to CNTL-2.

# MENU DISPLAY CHART

Adjustments or settings preset at the factory are shown in the menus.

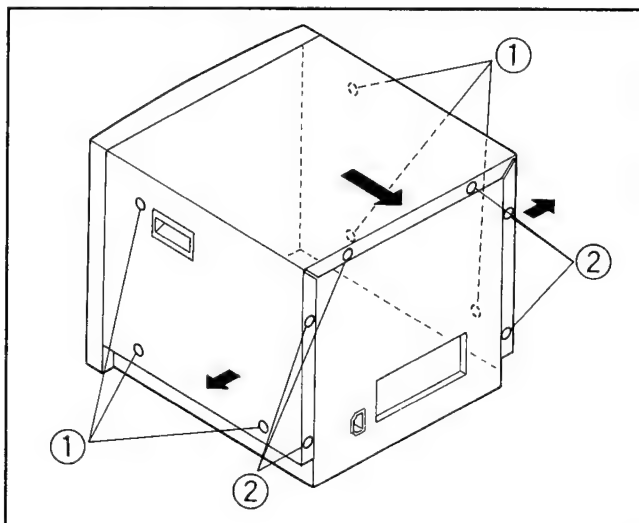


# MAIN PARTS LOCATION



# SPECIFIC SERVICE INSTRUCTIONS

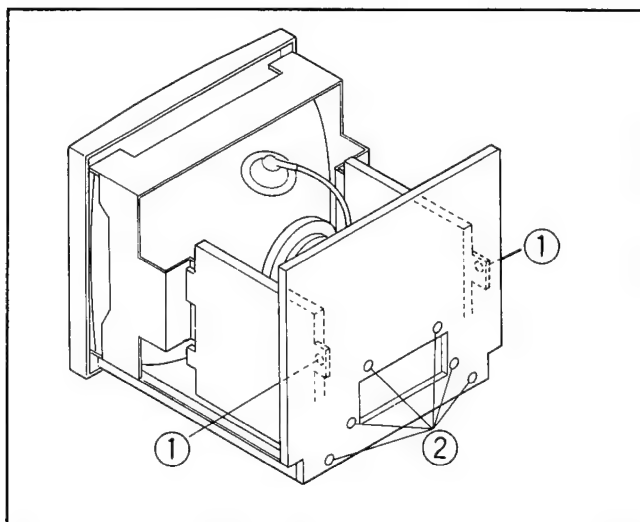
## Disassembly



- Be sure to disconnect the power cord from the AC outlet before disassembly and reassembly. Use care since unless the power cord is disconnected, some parts may still be live even when the power switch is off.

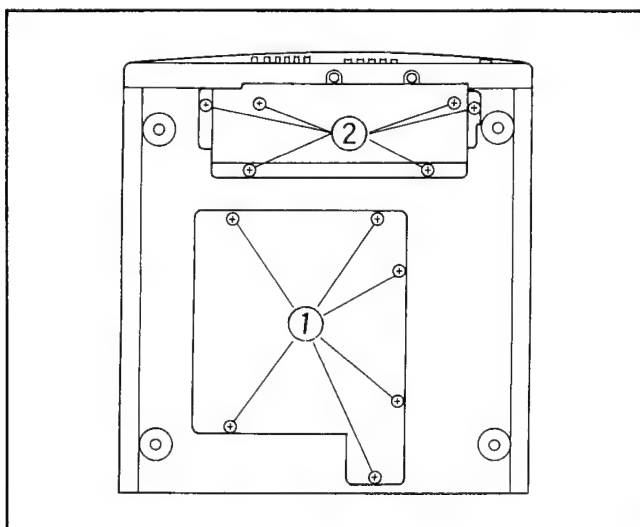
### ■ Top cover

1. Take out 6 screws ① and 6 screws ②.
2. Slightly spread the bottom part of the cover, shift it rearward and raise the top cover to remove it.



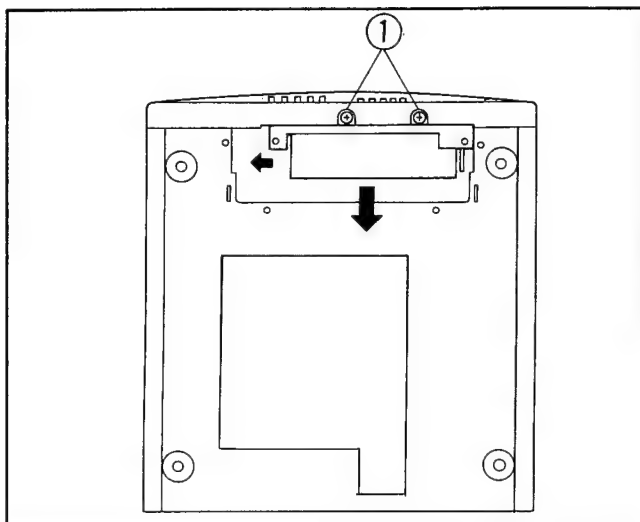
### ■ Rear panel

1. Remove the top cover.
2. Take out 2 screws ① and 6 screws ② to remove the rear panel.



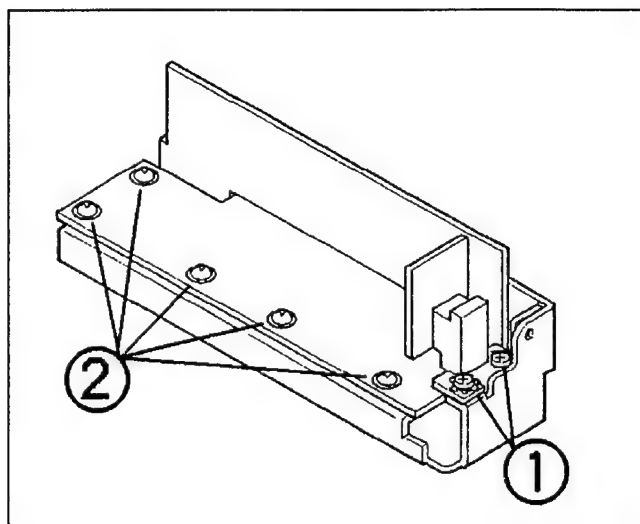
### ■ Bottom shield and shield cover

1. Remove the top cover and rear panel.
2. Take out 6 screws ① and remove the bottom shield.
3. Take out 6 screws ② and remove the shield cover.



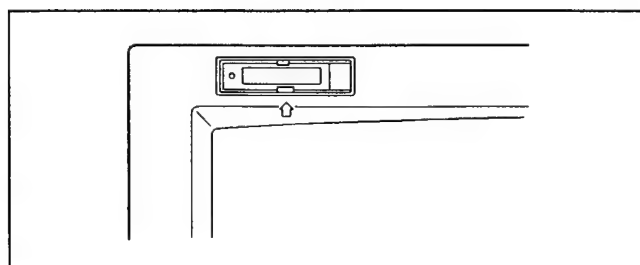
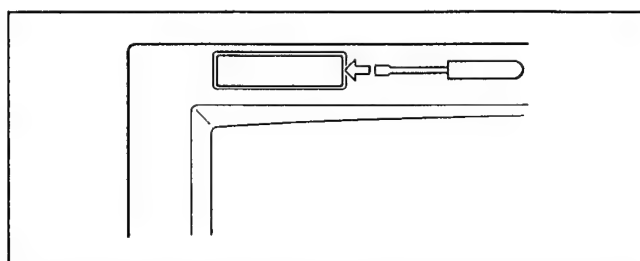
### ■ Front control brackets

1. Remove the shield cover.
2. Take out 2 screws ①.
3. Slide each bracket slightly toward the left, then pull downward to remove.



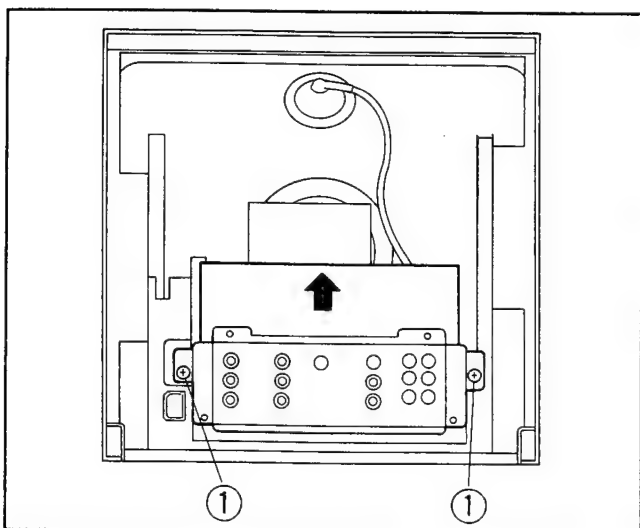
### ■ Power switch, front control PWB, CPU PWB

1. Remove the front control brackets (including CPU PWB).
2. Take out 2 screws ① and remove the power switch.
3. Take out 5 screws ② and remove the front control and CPU PWBs.
4. Disengage the connectors of the two PWBs.



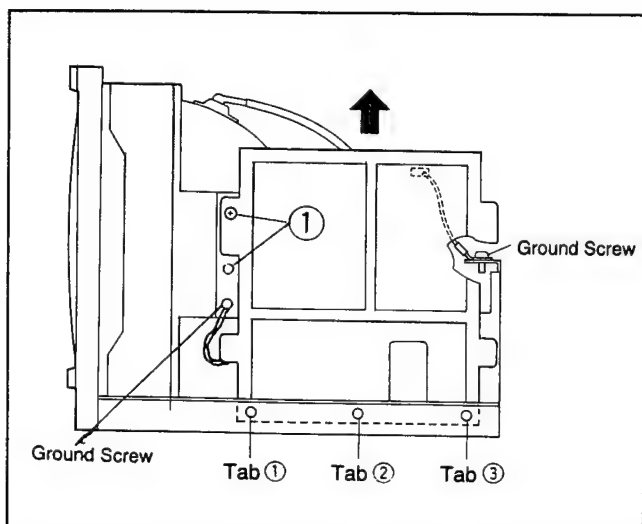
### ■ Tally PWB

1. While using care not to scratch the front panel, insert a flat blade screwdriver into the edge of the tally cover and remove the cover.
2. Since the tally PWB appears, press the top and bottom tabs downward with the screwdriver.
3. Pull the PWB downward to tilt and remove the PWB.



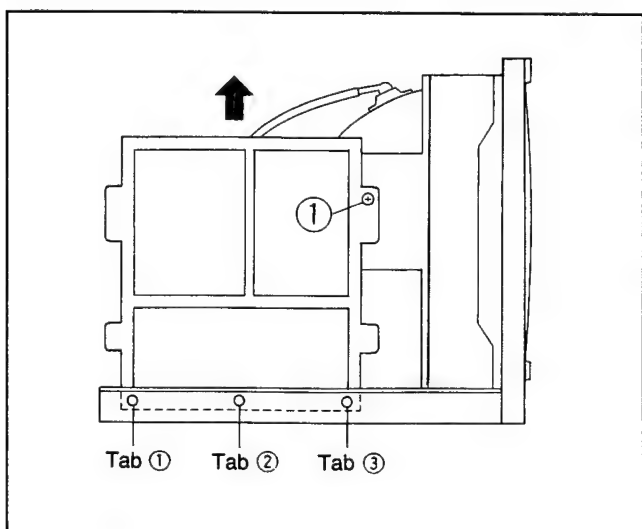
### ■ Input PWB

1. Remove the top cover and rear panel.
2. Take out 2 screws ①.
3. While pressing the lower signal PWB, pull upward and remove the input PWB. Use care regarding the tabs and engage the PWB to enable powered checks.



### ■ Power supply PWB

1. Remove the top cover and rear panel.
2. Take out 2 screw ①.
3. While raising the PWB, insert a screwdriver or similar tool to disengage tabs 1, 2 and 3, then remove the PWB.



### ■ Deflection PWB

1. Remove the top cover and rear panel.
2. Take out 1 screw ①.
3. While raising the PWB, insert a screwdriver or similar tool to disengage tabs 1, 2 and 3, then remove the PWB.

## REPLACEMENT OF CHIP COMPONENT

### ■CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

### ■SOLDERING IRON

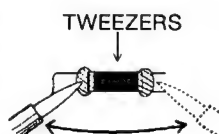
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

### ■REPLACEMENT STEPS

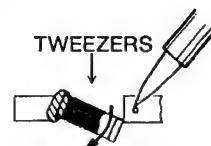
#### 1. How to remove Chip parts

##### ●Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

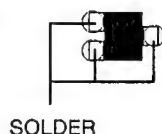


- (2) Shift with tweezers and remove the chip part.

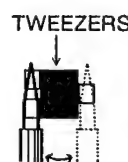


##### ●Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

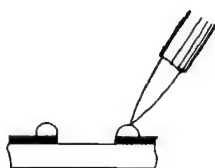


**Note:** After removing the part, remove remaining solder from the pattern.

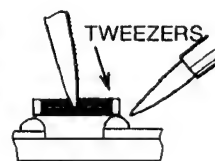
#### 2. How to install Chip parts

##### ●Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.



- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.



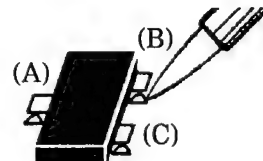
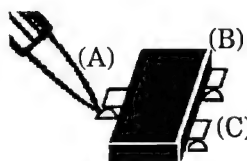
##### ●Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.

- (2) Grasp the chip part with tweezers and place it on the solder.

- (3) First solder lead A as indicated in the figure.

- (4) Then solder leads B and C.

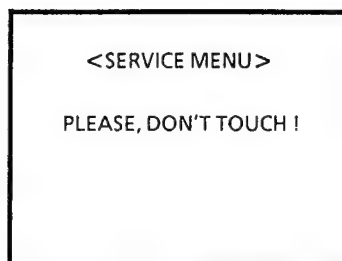
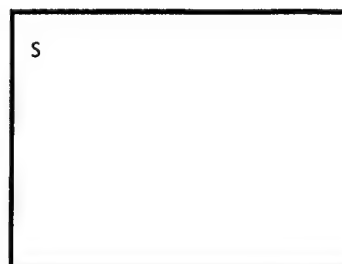




## Service menu entry

1. While holding Enter depressed, press Degauss.
2. The letter S appears at the upper left of the screen.
3. While holding Enter depressed, press Menu.
4. The screen display changes to <SERVICE MENU> PLEASE, DON'T TOUCH!
5. Press the left [←] or right arrow [→] to display the service menu.

If Step 4 state continues for more than 5 seconds without a further operation, the display extinguishes and the mode is released.

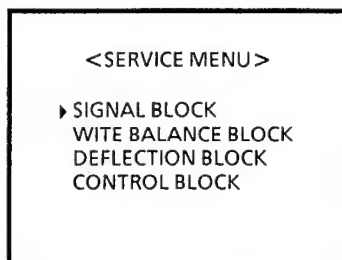


## Item selection

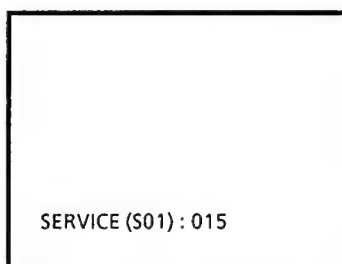
- While the service main menu is displayed:
  1. Press the up [↑] or down arrow [↓] to select the item.
  2. After selecting the item, press Enter.
  3. The adjustment mode menu is displayed.

## Setting value change

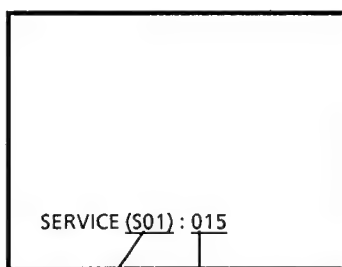
- While the adjustment mode menu is displayed:
  1. Press the right arrow [→] to change the setting value in the + direction.
  2. Press the left arrow [←] to change the setting value in the - direction.
  3. Press the up [↑] or down arrow [↓] to change the adjustment item number.



Service main menu



Adjustment mode menu



Adjustment item number

Setting value

## Service menu exit

1. When settings are completed, press Menu.
2. The service main menu returns.
3. Again press Menu.
4. The screen display extinguishes and the service mode is exited.

## ■ Signal system settings

No.	Input	Signal	Item	Data type	Variable range	Initial value
S01			Bright	Standard value	0~63	15
S02	Video	NTSC	Chroma	Standard value	0~63	32
S03	Video	NTSC	Phase	Standard value	0~63	32
S04	Video	NTSC	Contrast	Standard value	0~63	32
S05	Video	PAL	Chroma	Standard value	0~63	32
S06	Video	PAL N443	Contrast	Standard value	0~63	32
S07	Video Y/C	N443	Phase	Standard value	0~63	32
S08	Y/C	NTSC	Chroma	Standard value	0~63	32
S09	Y/C	NTSC	Phase	Standard value	0~63	32
S10	Y/C	NTSC PAL N443	Contrast	Standard value	0~63	32
S11	Y/C	PAL	Chroma	Standard value	0~63	32
S12	Color difference	N10/ SMPTE	Chroma	Standard value	0~63	32
S13	Color difference		Contrast	Standard value	0~63	32
S14	RGB		Contrast	Standard value	0~63	32
S15	Video	N443	Chroma	Correction value	0~255	3
S16	Y/C	N443	Chroma	Correction value	0~255	3
S17	Color difference	BETA	Chroma	Correction value	0~255	247
S18			Bright →pulse cross	Correction value	0~255	20
S19			Contrast →pulse cross	Correction value	0~255	236
S20			Bright →underscan	Correction value	0~255	0
S21			Contrast →underscan	Correction value	0~255	252
S22			Bright →16 : 9	Correction value	0~255	0
S23			Contrast →16 : 9	Correction value	0~255	250
S24	Video	SECAM	Chroma	Standard value	0~63	32
S25	Video	SECAM	Contrast	Standard value	0~63	32
S26	Y/C	SECAM	Chroma	Standard value	0~63	32

No.	Input	Signal	Item	Data type	Variable range	Initial value
S27	Y/C	SECAM	Contrast	Standard value	0~63	32
S28			Peak Drive Limit	Fixed value	0~255	50
S29			Control Reg - 1	Fixed value	0~255	193
S30			Control Reg - 2	Fixed value	0~255	0
S31	Video	NTSC,B/ W 60	Y Delay	Fixed value	0~255	65
S32	Y/C	NTSC,B/ W 60	Y Delay	Fixed value	0~255	73
S33	Video	PAL,B/W 50	Y Delay	Fixed value	0~255	82
S34	Y/C	PAL,B/W 50	Y Delay	Fixed value	0~255	82
S35	Video	N443	Y Delay	Fixed value	0~255	82
S36	Y/C	N443	Y Delay	Fixed value	0~255	82
S37	Video	SECAM	Y Delay	Fixed value	0~255	82
S38	Y/C	SECAM	Y Delay	Fixed value	0~255	82
S39	Color difference		Y Delay	Fixed value	0~255	64

#### ■ White balance settings

No.	Color temperature	Scan	Item	Data type	Variable range	Initial value
W01	9300	Normal	R - Cutoff	Standard value	0~63	37
W02	9300	Normal	G - Cutoff	Standard value	0~63	25
W03	9300	Normal	B - Cutoff	Standard value	0~63	23
W04	9300	Normal	R - Drive	Standard value	0~63	34
W05	9300	Normal	G - Drive	Standard value	0~63	32
W06	9300	Normal	B - Drive	Standard value	0~63	30
W07	6500	Normal	R - Cutoff	Standard value	0~63	48
W08	6500	Normal	G - Cutoff	Standard value	0~63	25
W09	6500	Normal	B - Cutoff	Standard value	0~63	12
W10	6500	Normal	R - Drive	Standard value	0~63	37
W11	6500	Normal	G - Drive	Standard value	0~63	32
W12	6500	Normal	B - Drive	Standard value	0~63	24

No.	Color temperature	Scan	Item	Data type	Variable range	Initial value
W13	3200	Normal	R - Cutoff	Standard value	0~63	Not used(32)
W14	3200	Normal	G - Cutoff	Standard value	0~63	Not used(32)
W15	3200	Normal	B - Cutoff	Standard value	0~63	Not used(32)
W16	3200	Normal	R - Drive	Standard value	0~63	Not used(32)
W17	3200	Normal	G - Drive	Standard value	0~63	Not used(32)
W18	3200	Normal	B - Drive	Standard value	0~63	Not used(32)
W19		Under	R - Cutoff	Correction value	0~255	0
W20		Under	G - Cutoff	Correction value	0~255	0
W21		Under	B - Cutoff	Correction value	0~255	0
W22		Under	R - Drive	Correction value	0~255	0
W23		Under	G - Drive	Correction value	0~255	0
W24		Under	B - Drive	Correction value	0~255	0
W25		16 : 9	R - Cutoff	Correction value	0~255	0
W26		16 : 9	G - Cutoff	Correction value	0~255	0
W27		16 : 9	B - Cutoff	Correction value	0~255	0
W28		16 : 9	R - Drive	Correction value	0~255	0
W29		16 : 9	G - Drive	Correction value	0~255	0
W30		16 : 9	B - Drive	Correction value	0~255	0

## ■ Deflection system settings

No.	Scan	Input	V. frequency	Item	Variable range	Initial value
D01	Normal	Video	60Hz	V-Size →Standard value	0~63	38
D02	Normal	Video	60Hz	V-Shift →Standard value	0~63	32
D03	Normal	Video	60Hz	V-Linearity →Standard value	0~15	7
D04	Normal	Video	60Hz	S-Correction →Standard value	0~15	15
D05	Normal	Video	60Hz	H-Size →Standard value	0~63	32
D06	Normal	Video	60Hz	H-Shift →Standard value	0~63	32
D07	Normal	Video	60Hz	Pin-AMP →Standard value	0~63	30
D08	Normal	Video	50Hz/60Hz	HV-COMP-V →Standard value	0~7	7
D09	Normal	Video	50Hz/60Hz	HV-COMP-H →Standard value	0~7	0
D10	Normal	Video	50Hz	V-Size →Standard value	0~255	40
D11	Normal	Video	50Hz	V-Shift →Standard value	0~255	29
D12	Normal	Video	50Hz	V-Linearity →Standard value	0~255	8
D13	Normal	Video	50Hz	S-Correction →Standard value	0~255	15
D14	Normal	Video	50Hz	H-Size →Standard value	0~255	33
D15	Normal	Video	50Hz	H-Shift →Standard value	0~255	32
D16	Normal	Video	50Hz	Pin-AMP →Standard value	0~255	30
D17	Under	Video	50Hz/60Hz	V-Size →Correction value	0~255	230
D18	Under	Video	50Hz/60Hz	V-Shift →Correction value	0~255	0
D19	Under	Video	50Hz/60Hz	V-Linearity →Correction value	0~255	0
D20	Under	Video	50Hz/60Hz	S-Correction →Correction value	0~255	0
D21	Under	Video	50Hz/60Hz	H-Size →Correction value	0~255	0
D22	Under	Video	50Hz/60Hz	H-Shift →Correction value	0~255	253
D23	Under	Video	50Hz/60Hz	Pin-AMP →Correction value	0~255	2
D24	Under	Video	50Hz/60Hz	HV-COMP-V →Correction value	0~255	0
D25	Under	Video	50Hz/60Hz	HV-COMP-H →Correction value	0~255	0
D26	16 : 9	Video	50Hz/60Hz	V-Size →Correction value	0~255	0
D27	16 : 9	Video	50Hz/60Hz	V-Shift →Correction value	0~255	0
D28	16 : 9	Video	50Hz/60Hz	V-Linearity →Correction value	0~255	0
D29	16 : 9	Video	50Hz/60Hz	S-Correction →Correction value	0~255	0
D30	16 : 9	Video	50Hz/60Hz	H-Size →Correction value	0~255	0

No.	Scan	Input	V. frequency	Item	Variable range	Initial value
D31	16 : 9	Video	50Hz/60Hz	H-Shift →Correction value	0 ~ 255	0
D32	16 : 9	Video	50Hz/60Hz	Pin-AMP →Correction value	0 ~ 255	0
D33		RGB	60Hz	V-Shift →Correction value	0 ~ 255	0
D34		RGB	60Hz	H-Shift →Correction value	0 ~ 255	0
D35		RGB	50Hz	V-Shift →Correction value	0 ~ 255	0
D36		RGB	50Hz	H-Shift →Correction value	0 ~ 255	0
D37	Pulse Cross		50Hz/60Hz	V-Shift →Correction value	0 ~ 255	0
D38	Pulse Cross		50Hz/60Hz	H-Shift →Correction value	0 ~ 255	0
D39	External SYNC		50Hz/60Hz	V-Shift →Correction value	0 ~ 255	0
D40	External SYNC		50Hz/60Hz	H-Shift →Correction value	0 ~ 255	0
D41	TILT		50Hz/60Hz	TILT →Fixed value	0 ~ 255	16
D42	U/L Cornner Pin		50Hz/60Hz	U/L CORNER PIN →Fixed value	0 ~ 255	255
D43	V-BOW/V-ANGLE		50Hz/60Hz	V-BOW/V-ANGLE →Fixed value	0 ~ 255	136

#### ■ Control system setting

No.	Item	Variable range	Initial value	Remarks
C01	Color TEMP. Default	0 ~ 255	1	Color temperature initial setting 1:6500K,2:9300K
C02	Menu display time	0 ~ 255	0	Menu display time 0: extinguish after 5 minutes, 1: continuous
C03	OSDC Color	0 ~ 255	7	On-screen color setting, power off/on needed after changing (see table next page)
C04	OSDC H.Position	0 ~ 255	5	On-screen H. position 0 - 15
C05	OSDC V.Position (60Hz)	0 ~ 255	1	On-screen V. position (60 Hz) 0 - 15
C06	OSDC V.Position (50Hz)	0 ~ 255	2	On-screen V. position (50 Hz) 0 - 15
C07	Bright Data to MAX	0 ~ 255	20	Effective brightness range from center detent to maximum
C08	Bright Data to MIN	0 ~ 255	20	Effective brightness range from center detent to minimum



No.	Item	Variable range	Initial value	Remarks
C09	Chroma Data to MAX	0 ~ 255	30	Effective chroma range from center detent to maximum
C10	Chroma Data to MIN	0 ~ 255	50	Effective chroma range from center detent to minimum
C11	Contrast Data to MAX	0 ~ 255	20	Effective contrast range from center detent to maximum
C12	Contrast Data to MIN	0 ~ 255	20	Effective contrast range from center detent to minimum
C13	Phase Data to MAX	0 ~ 255	30	Effective phase range from center detent to maximum
C14	Phase Data to MIN	0 ~ 255	30	Effective phase range from center detent to minimum
C15	Signal	0 ~ 255	10	Signal Status display check time when signal change or display after data x 32 ms when counter is 0 - 127, not displayed when 127 - 255
C16	System detect	0 ~ 255	0	0: automatic, 1: 3.58 MHz, 2: 4.43 MHz

No.	On-screen color setting data	No.	On-screen color setting data
129	Blue	0	Black (darkens during blue check)
130	Green	1	Black (brightens during blue check)
131	Aqua	2	Green (darkens during blue check)
132	Red	3	Green (brightens during blue check)
133	Magenta	4	Red (darkens during blue check)
134	Yellow	5	Red (brightens during blue check)
135	White	6	Orange (darkens during blue check)
136	Black	7	Orange (brightens during blue check)

## Set-up menu entry

1. While holding Enter depressed, press Menu.
2. The Set-up menu is displayed on the screen.

## Item selection

### ■ Size/centering, white balance adjust, remote select

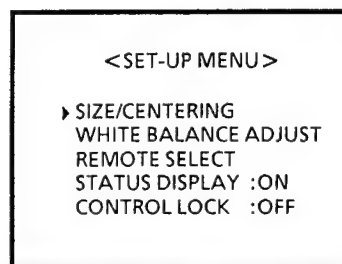
- Size/centering items are displayed only when RGB input is selected.
1. Press the up [↑] or down arrow [↓] to select Size/Centering items.
  2. After selecting the item, press Enter.
  3. The adjustment mode menu is displayed.
  4. Again press Enter to display the adjustment mode sub-menu for each adjustment item (select adjustment item with up [↑] or down arrow [↓]).
  5. Press Menu to display the original adjustment mode menu.
  6. Perform in the same manner for White balance adjust and Remote select.

### ■ Status display

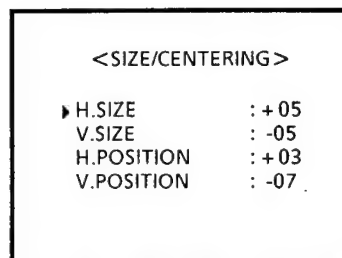
1. Press the up [↑] or down arrow [↓] to select the status display items.
2. Press the left [←] or right arrow [→] to select on/off.

### ■ Control lock

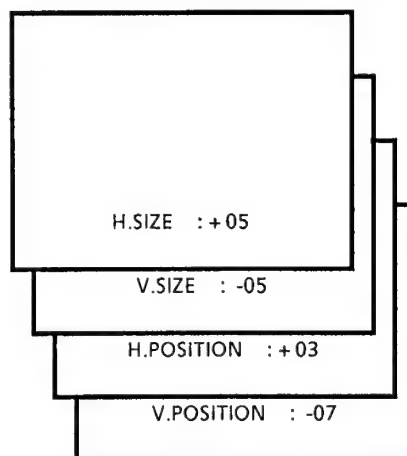
- Except for sound volume, all control operations are inhibited from the front control buttons, Phase, Chroma, Bright and Contrast controls, and the remote controller (sound volume remains operational).
1. Press the up [↑] or down arrow [↓] to select Control Lock.
  2. Press the left [←] or right arrow [→] to select on/off.
  3. The status just prior to selecting On is held and after exiting the set-up main menu, control adjustment is inhibited.
  4. To release the control lock, press Enter and Menu to display the set-up main menu, then set Control Lock to Off.



Set-up main menu



Adjustment mode menu



Adjustment mode sub-menu

H.SIZE → V.SIZE → H.POSITION → V.POSITION

## Setting value change

- Set for displaying the adjustment mode menu or the adjustment mode sub-menu.
- 1. Press the right arrow [→] to change the adjustment value in the + direction.
- 2. Press the left arrow [←] to change the adjustment value in the - direction.
- 3. Press the up [↑] or down arrow [↓] to change the adjustment item.
- 4. Press Menu to return the set-up main menu. (At the adjustment mode sub-menu, again press Menu.)

## Set-up menu exit

1. When settings are complete, press Menu.
2. The screen display extinguishes and the set-up menu is exited.

## Set-up menu checks

### ■ White balance

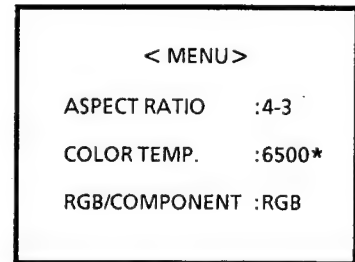
To check if adjustment has changed:

1. Press Menu to display the user main menu.
2. If an asterisk (\*) appears at the Color Temp. item, the setting has been changed.

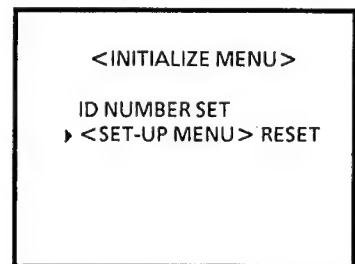
### ■ Set-up menu initialize

To return changed Size/Centering and White Balance Adjust to original status (initialize);

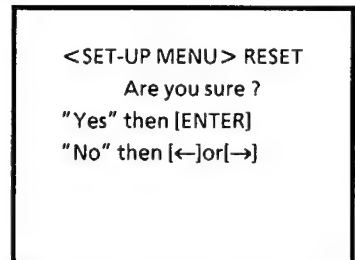
1. Hold the mainframe down arrow [↓] and Menu depressed, and set power on (inoperable from remote controller).
2. The initialize menu is displayed (hold depressed until menu appears).
3. Select Set-up Menu Reset and press Enter.
4. The set-up reset menu is displayed.
5. Press Enter to return the standard settings. Note that Remote Elect, Status Display and Control Lock are initialized and ID No. is cleared to 0.



User main menu



Initialize menu



Set-up reset menu

## Memory IC replacement notes

This model uses non-volatile memory ICs. When these are replaced, the data must be reset.

Video and deflection system data are stored in IC103. If this is replaced without entering the data, a normal picture will not be obtained. When replacing, be sure to use an IC(ST24BM-1400) containing the (initial value) data.

### ■ Set-up menu record

Press Menu and at the menu display, check if an asterisk (\*) appears after Color Temp. If the asterisk appears, the user has set the values according to personal preference. To the extent possible, make a memo of the setting values before replacing the IC.

### ■ IC replacement steps

1. To the extent possible, make a memo of the set-up menu and adjustment mode menu contents.
2. Switch off the power and disconnect the power cord from the outlet.
3. Replace IC103.
4. Reconnect the power cord to the outlet and switch power on.
5. Refer to the memo and enter the setting values.
6. Perform adjustments according to the adjustment items.

# SERVICE ADJUSTMENTS

## PRIOR TO STARTING ADJUSTMENT

1. Supply power to the set and measuring instruments and allow to warm up for at least 30 minutes.
2. Confirm the proper AC power voltage is being supplied.
3. Use care not to disturb controls and switches not mentioned in the adjustment items.
4. Refer to adjustment settings and set user operated controls (BRIGHT, CONTRAST, PHASE, CHROMA, etc.) to the indicated positions.

## TOOLS AND FIXTURES FOR ADJUSTMENT

- DC voltmeter (digital voltmeter)
- Oscilloscope
- Signal generator (PAL/NTSC systems)
  - Color bar and split color bar patterns
  - Crosshatch pattern
  - Cross pattern
  - Red raster pattern
  - Green raster pattern
  - Blue raster pattern
  - Philips pattern (including R-Y and B-Y) Desirable
  - TV resolution pattern Desirable
- Remote control unit (RM-C550W) Adjustments easier if available
- Color analyzer Desirable
- High voltage meter Desirable

## ADJUSTMENT SETTINGS

### 1. Front controls

PHASE	Detent
CHROMA	Detent
BRIGHT	Detent
CONTRAST	Detent
VOLUME	MIN

### 2. Front switches

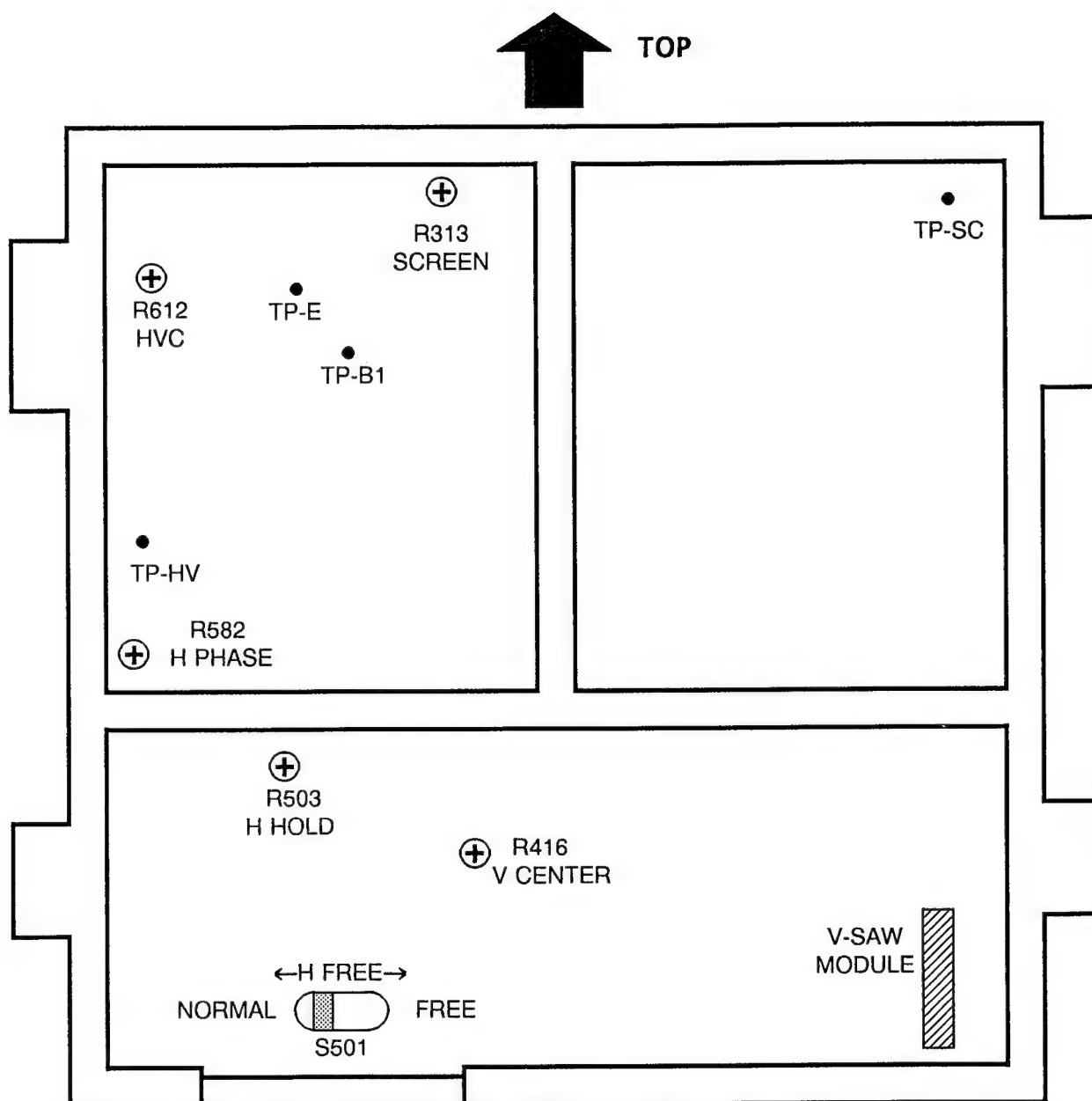
INPUT SELECT	VIDEO A	
EXT SYNC	INT	Switched not depressed
UNDER SCAN	OVER	⧵
PULSE CROSS	OFF	⧵
COLOR OFF	COLOR	⧵
BLUE CHECK	OFF	⧵
MEMORY MODE	OFF	⧵

### 3. Menu screen

ASPECT RATIO	4 - 3
FILTER SELECT	COMB
PEAKING FREQ.	2.6MHz
PEAKING LEVEL	0dB
AFC	NORMAL
COLOR TEMP.	<u>6500</u>
NTSC SETUP	0
COMPO. LEVEL	SMPTE
RGB/COMPONENT	RGB

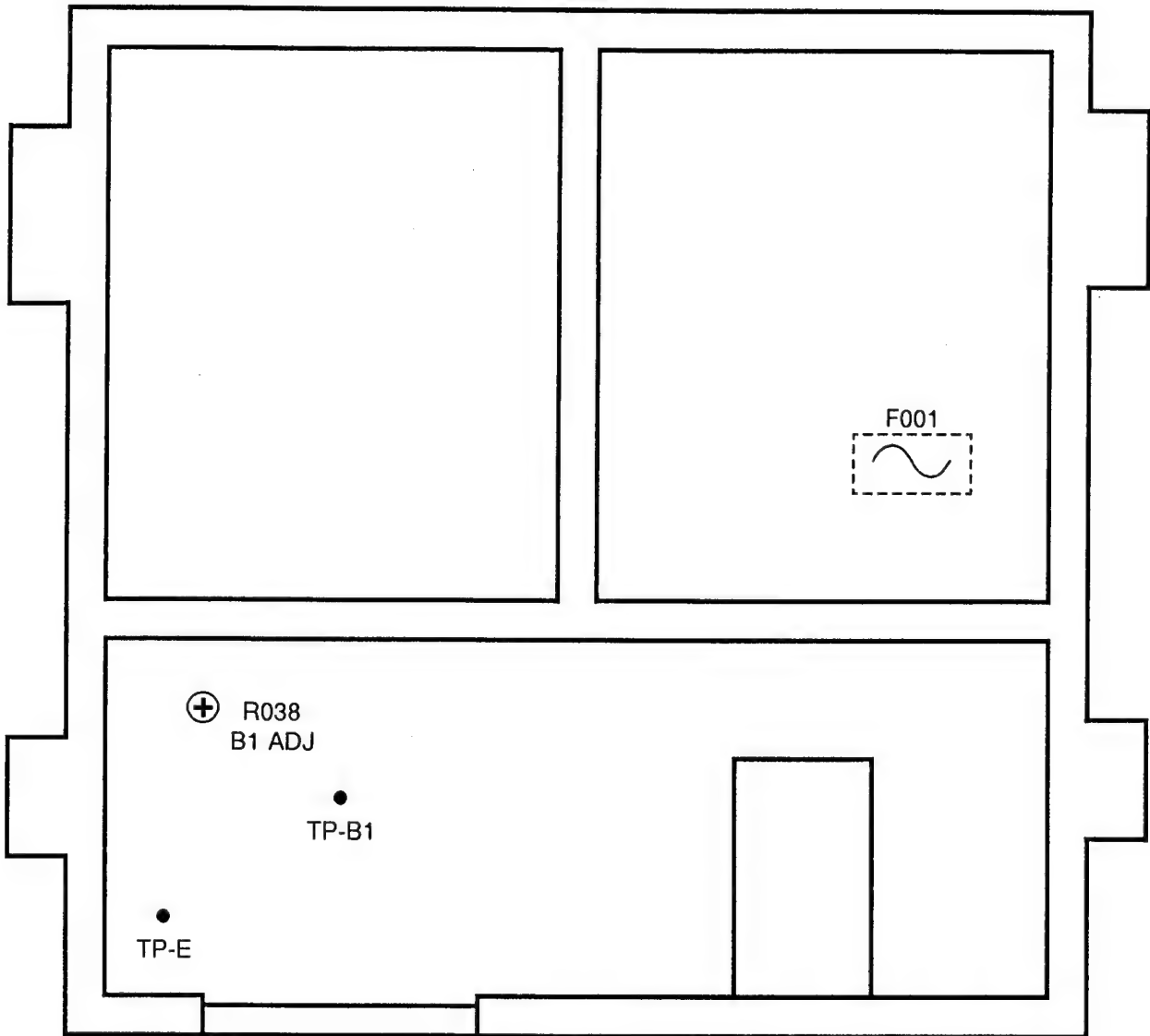
## ADJUSTMENT LOCATIONS

■ DEFLECTION PWB (pattern side)

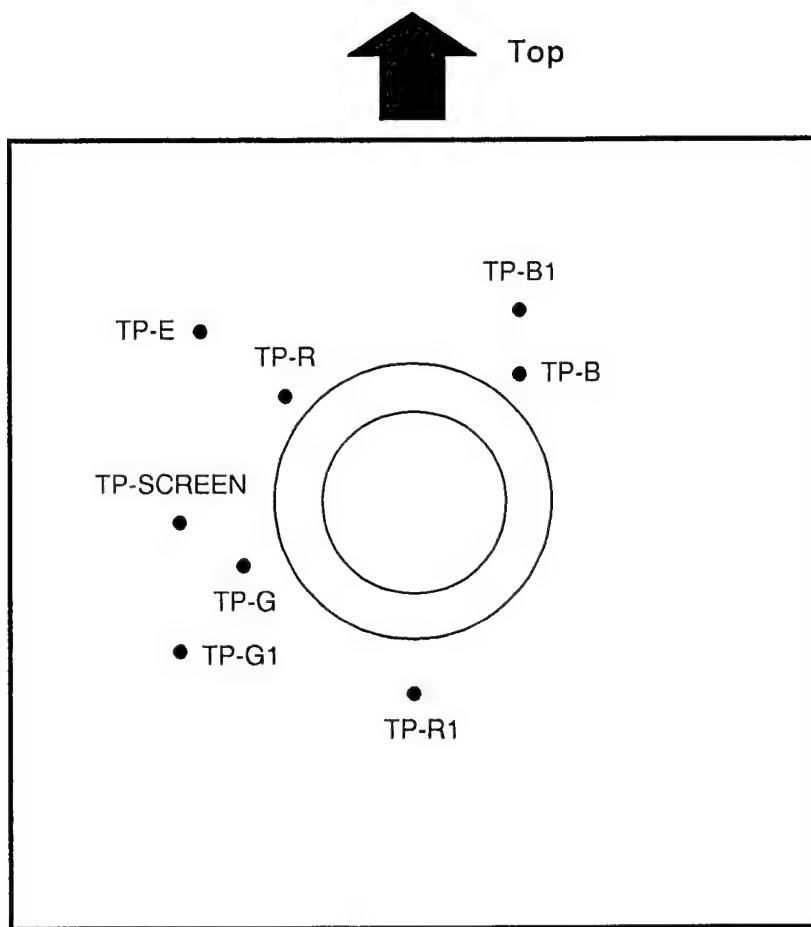




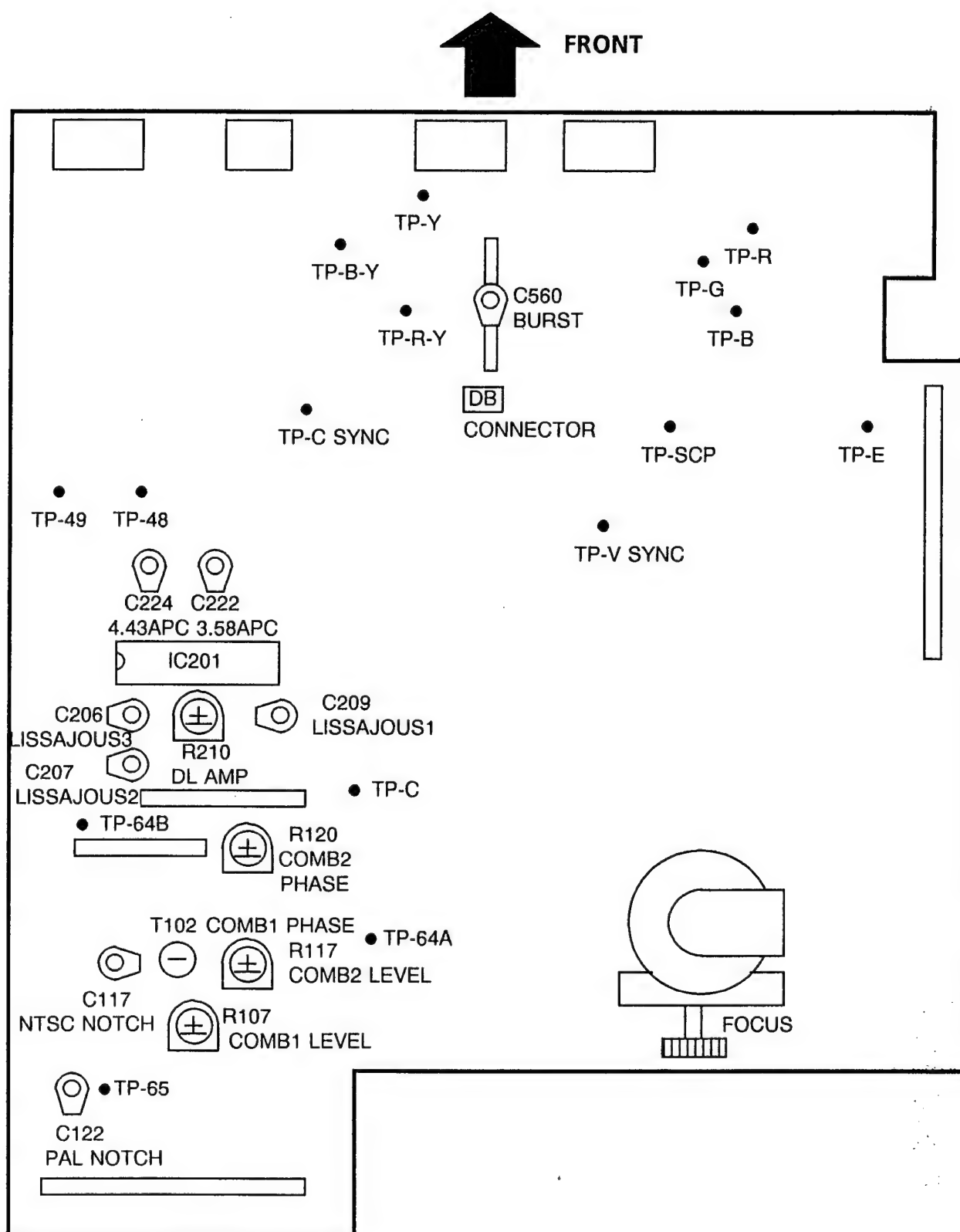
■ Power PWB (pattern side)



■ CRT socket PWB (pattern side)



## ■ SIGNAL PWB (parts side)



## ■ HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT

### 1. HIGH VOLTAGE HOLD DOWN CIRCUIT

After repairing of the high voltage hold down circuit shown in Fig. 1.

This circuit shall be checked to operate correctly.

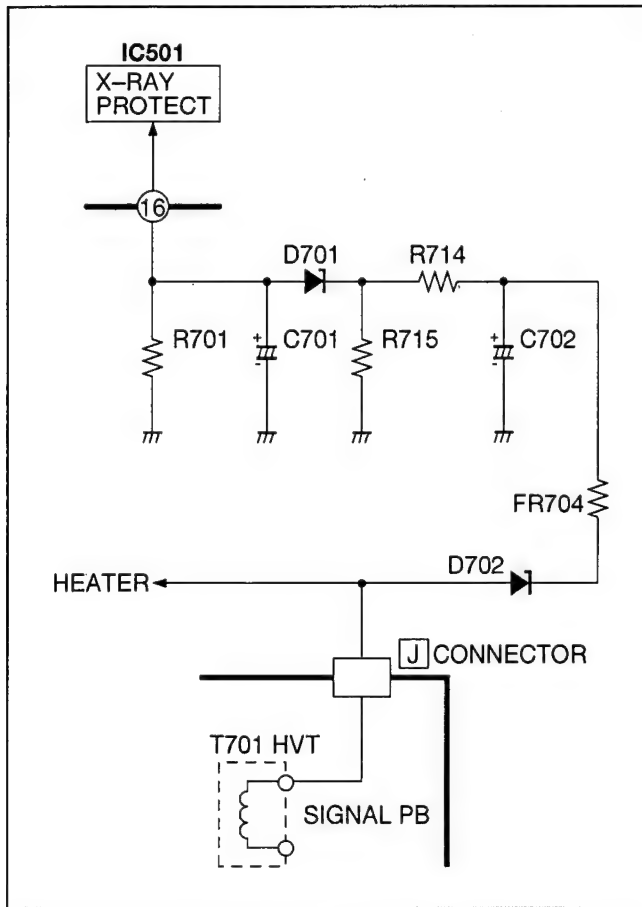


Fig. 1

### 2. CHECKING OF THE HIGH VOLTAGE HOLD DOWN CIRCUIT

- 1) Make sure that power switch is at OFF position.
- 2) Connect the High Voltage Meter to the CRT Anode.
- 3) Input the NTSC crosshatch pattern.
- 4) Turn the power switch ON.
- 5) Turn Brightness and Contrast controls to the minimum.
- 6) Turn the power switch OFF.
- 7) Remove the G connector in the Deflection PB and connect the self-making service equipment #2.
- 8) Connect the self-making service equipment #1 to the G1 connector than turn the power switch of the monitor ON.  
Be sure that the switch of the equipment must be OFF position.
- 9) Set the DC power supply 85V then turn the equipment switch ON.
- 10) Gradually increase the DC voltage from 85V. Confirm the High Voltage will disappear at the voltage between 27.0~29.0kV. After confirming, turn the power switch of the monitor OFF.

- 11) Turn the service equipment #1 switch OFF then disconnect the equipment from the G1 connector.
- 12) Disconnect the service equipment #2 from the G connector then put the G connector back the original condition.

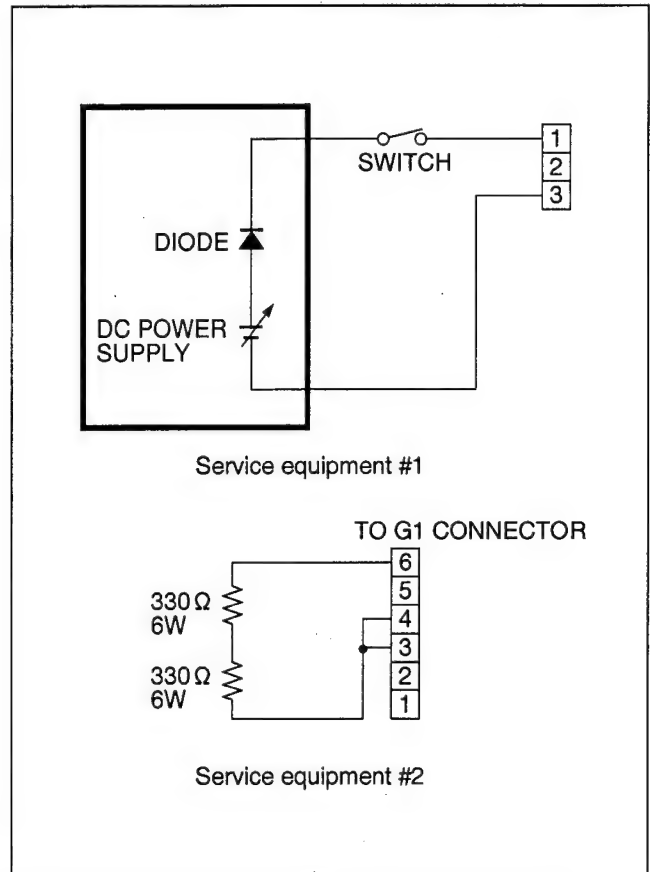


Fig. 2

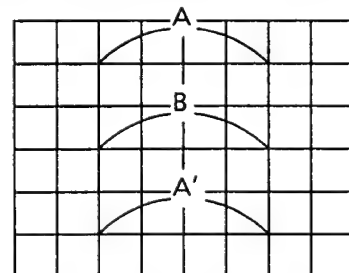
#### \* Notice


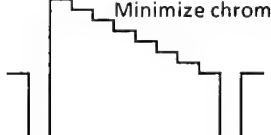

- While checking, sometimes the picture may roll vertically or the picture may be back. It is no effect to check this circuit.
- Self-making service equipments.
  - Service equipment #1:  
The DC power supply requires to have over 1A DC current.  
Use the diode RG4C/RU30/RU3AM/RU4AM or the same type.
  - Service equipment #2:  
The total resistance must be 660Ω.  
The total rated power (W; wattage) must be over 12W.

## ADJUSTING STEP

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
B1 voltage check	Voltmeter Variable transformer	TP-B1 TP-E	R038 (B1 adj) [Power PBW]	<ol style="list-style-type: none"> <li>1. Set power supply voltage to 198 V.</li> <li>2. Set contrast and bright to minimum and produce a black screen.</li> <li>3. Connect voltmeter between TP-B1 and TP-E. Switch on power.</li> <li>4. Adjust R038 (B1 adj) to set the B1 voltage to <math>85.0 \pm 0.2</math> V.</li> <li>5. Set the power supply voltage to 264 V.</li> <li>6. Check for B1 voltage of <math>85.0 \pm 0.2</math> V.</li> <li>7. Return the contrast and bright controls to the detent positions.</li> </ol>
High voltage check	High voltage meter Signal generator (All-black signal)			<ol style="list-style-type: none"> <li>1. Set the Ext Sync switch to Ext.</li> <li>2. Connect a synchronization signal to Ext Sync.</li> <li>3. When the raster appears, reduce the bright control.</li> <li>4. Connect the high voltage meter to the anode and check for 24.0 - 25.0 KV.</li> <li>5. Return the Ext Sync switch to Int.</li> </ol>
v.deflection center	Signal generator (Resolution pattern)		D02(NTSC V SHIFT) [SERVICE MENU] R416(V CENTER) [Deflection PWB]	<ul style="list-style-type: none"> <li>• Perform after purity adjustment.</li> <li>• Adjust deflection yoke inclination.</li> </ul> <ol style="list-style-type: none"> <li>1. At service menu, set D02 to 32.</li> <li>2. Adjust R416 (V phase) to align the picture center with the CRT center.</li> </ol>
Screen	Oscilloscope Signal generator (Color bar)	TP-SC	R313 (SCREEN) [Deflection PWB]	<ol style="list-style-type: none"> <li>1. Connect oscilloscope to TP-SC.</li> <li>2. Adjust R313 (Screen) to set the screen voltage to <math>450 \pm 10</math> V.</li> </ol>
Focus	Signal generator (Resolution pattern)		FOCUS VR [HVT]	<ol style="list-style-type: none"> <li>1. Adjust the Focus VR for optimum focus where moire is not apparent.</li> <li>2. Darken the picture and and adjust the focus by turning counter-clockwise from the position where focus is poor.</li> <li>3. Alternately repeat the above steps to obtain the optimum position.</li> </ol> <ul style="list-style-type: none"> <li>• Focus can be adjusted easily by displaying the menu.</li> </ul>
H frequency	Signal generator (Resolution pattern)		D06(H SHIFT) [SERVICE MENU] S501 (H FREE SW) R503(H HOLD) [Deflection PWB]	<ol style="list-style-type: none"> <li>1. At the service menu, set D06 to 32.</li> <li>2. Set S501 (H Free SW) to Free.</li> <li>3. Adjust screen sync with R503 (H Hold).</li> <li>4. Set S501 (H Free SW) to Normal.</li> <li>5. Change the signal, then return the previous signal. Confirm absence of sync disturbance.</li> </ol>
H center (NTSC)	Signal generator (Resolution pattern)		D06(H SHIFT) [SERVICE MENU] R582(H PHASE) [Deflection PWB]	<ol style="list-style-type: none"> <li>1. At the service menu, set D06 to 32.</li> <li>2. Adjust R582 (H Phase) to align the picture center with the CRT center.</li> </ol>

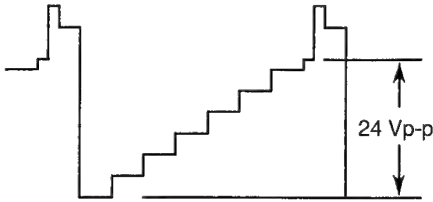
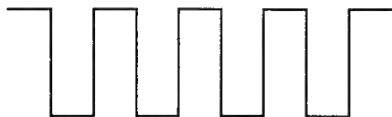
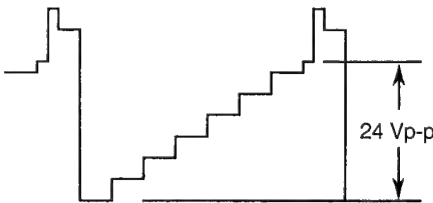

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
HVC	Voltmeter Signal generator (All-black signal)	TP-HV	R612(HVC) [Deflection PWB]	<ol style="list-style-type: none"> <li>1. Set Ext Sync to Ext and supply a horizontal sync signal input.</li> <li>2. When the raster appears, reduce the Bright control.</li> <li>3. Connect the voltmeter to TP-HV.</li> <li>4. Adjust R612 (HVC) for <math>2.0 \pm 0.1</math> V.</li> </ol>
H gain (NTSC)	Signal generator (Resolution or crosshatch pattern)		D05(H SIZE) D21(H SIZE) D22(H SHIFT) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. At the service menu, set D05 to adjust the horizontal size to 95 %.</li> <li>2. Set the Scan Size to Under.</li> <li>3. Set D21 to 00.</li> <li>4. Set D22 to 253.</li> <li>5. Return the Scan Size to normal.</li> </ol>
H center H gain (PAL)	Signal generator (Resolution or crosshatch pattern)		D15(H SHIFT) D14(H SIZE) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Adjust D15 to align the picture center with the CRT center.</li> <li>2. Adjust D14 to set the horizontal size to 95 %.</li> </ol>
V gain, V center, V linearity (NTSC)	Signal generator (Resolution pattern)		D03(V LINEARITY) D01(V SIZE) D17(V SIZE) D19(V LINEARITY) D18(V SHIFT) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Check that the horizontal line of the video signal center is at the CRT center (if shifted, adjust R416).</li> <li>2. Adjust the picture vertical linearity (scan ratio) with D03.</li> <li>3. Adjust the screen top and bottom edges to 95 % with D01.</li> <li>4. Set the Scan Size to Under.</li> <li>5. Set D17 to 230.</li> <li>6. Set D19 to 00.</li> <li>7. Set D18 to 00.</li> <li>8. Return the Scan Size to normal.</li> </ol>
V gain, V center, V linearity (PAL)	Signal generator (Resolution pattern)		D11(V SHIFT) D12(V LINEARITY) D10(V SIZE) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Adjust D11 to align the video signal center with the CRT center.</li> <li>2. Adjust the picture vertical linearity (scan ratio) with D12.</li> <li>3. Adjust the screen top and bottom edges to 95 % with D10.</li> </ol>
Side pincushion (NTSC/PAL)	Signal generator (Crosshatch NTSC/PAL)		D07(PIN AMP) D23(PIN AMP) D16(PIN AMP) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Adjust side pincushion with D07 so that A = B.</li> <li>2. Set the Scan Size to Under.</li> <li>3. Adjust side pincushion with D23 so that A = B.</li> <li>4. Supply a PAL crosshatch input.</li> <li>5. Return the Scan Size to normal.</li> <li>6. Adjust side pincushion with D16 so that A = B.</li> </ol>

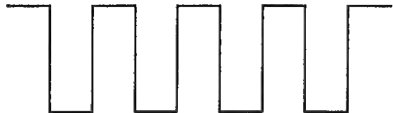
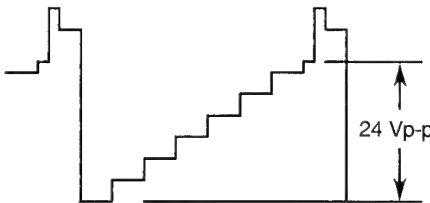
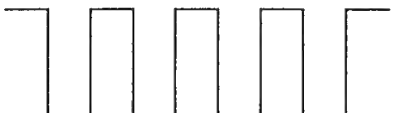
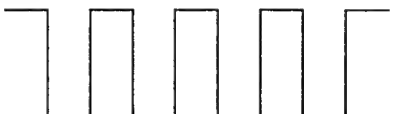


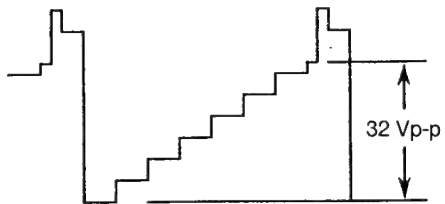
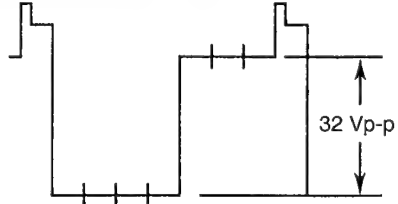
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Comb filter (NTSC)	Oscilloscope Signal generator (Color bar)	TP-64A TP-64B	R107 (COMB1 LEVEL) T102 (COMB1 PHASE) R117 (COMB2 LEVEL) R120 (COMB2 PHASE) [Signal PWB]	<ol style="list-style-type: none"> <li>Set the menu Filter Select to Comb.</li> <li>Connect oscilloscope to TP-64A.</li> <li>Alternately adjust R107 and T102 to minimize the chroma component.</li> </ol>  <p>Minimize chroma component</p> <ol style="list-style-type: none"> <li>Connect oscilloscope to TP-64.</li> <li>Alternately adjust R117 and R120 to minimize the chroma component.</li> </ol>  <p>Minimize chroma component</p>
Notch filter	Oscilloscope Signal generator (Color bar NTSC/PAL)	TP-65	C117 (NTSC NOTCH) C122 (PAL NOTCH) [Signal PWB]	<ol style="list-style-type: none"> <li>Set the menu Filter Select to Notch.</li> <li>Connect oscilloscope to TP-65.</li> <li>Adjust C117 to minimize the chroma component.</li> <li>Supply a PAL color bar input.</li> <li>Adjust C122 to minimize the chroma component.</li> </ol>  <p>Minimize chroma component</p>
Color sync (NTSC)	Signal generator (Color bar) 10 K $\Omega$ resistor Shorting fixture		C222 (3.58 APC) [Signal PWB]	<ol style="list-style-type: none"> <li>Connect a 10 K<math>\Omega</math> resistor between IC201 pin 13 and +B (12 V).</li> <li>Connect a shorting fixture between IC201 pin 14 and ground.</li> <li>Adjust to synchronize the color bar with C222.</li> <li>Remove the resistor and shorting fixture.</li> <li>Change the input signal, then return the color bar. Confirm absence of sync disturbance.</li> </ol>

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
APC (PAL)	Oscilloscope Signal generator (Color bar, split color bar) 10 K $\Omega$ resistor 5.6K $\Omega$ resistor Shorting fixture	TP-48 TP-49	C224(4.43APC) R210(DL AMP) C206(LISSAJOUS 3) C207(LISSAJOUS 2) C209 [Signal PWB]	<ol style="list-style-type: none"> <li>1. Connect a 10 K<math>\Omega</math> resistor between IC201 pin 13 and +B (12 V).</li> <li>2. Connect a shorting fixture between IC201 pin 14 and ground.</li> <li>3. Connect a 5.6K<math>\Omega</math> resistor between IC201 pin 8 and ground.</li> <li>4. Adjust to synchronize the color bar with C224.</li> <li>5. Remove the resistor and shorting fixture.</li> <li>6. Connect an oscilloscope to TP-48 and TP-49 and display X-Y coordinates.</li> <li>7. Adjust R210 and C206 to obtain the waveform indicated in the figure. If inadequate, adjust C207 and C209.</li> </ol> <div data-bbox="1011 678 1485 913"> <p>(A) Adjust (B)</p> </div> <ol style="list-style-type: none"> <li>8. Supply a PAL split color bar input and adjust C224 to minimize coloration in the R-Y and B-Y components.</li> </ol>
Pulse cross	Signal generator (Color bar NTSC/PAL)		R570(V.SYNC) [Signal PWB]	<ol style="list-style-type: none"> <li>1. Set the pulse cross switch to on.</li> <li>2. Adjust R570 to eliminate luminance and burst signal variation in the V blanking period.</li> <li>3. Supply a PAL color bar input.</li> <li>4. Confirm absence of luminance and burst signal variation in the V blanking period.</li> <li>5. Again supply an NTSC color bar input and again confirm absence of luminance and burst signal variation in the V blanking period.</li> <li>6. If variation is present, again adjust R570.</li> <li>7. Set the pulse cross switch to off.</li> </ol>
Chroma and phase (Video input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S02(CHROMA) S03(PHASE) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply an NTSC color bar to Video A.</li> <li>2. Set the menu Filter Select to Notch.</li> <li>3. Connect oscilloscope to TP-B.</li> <li>4. Alternately adjust S02 and S03 to obtain a straight line waveform.</li> <li>5. Set Filter Select to Comb.</li> </ol> <div data-bbox="1050 1644 1442 1760"> </div>

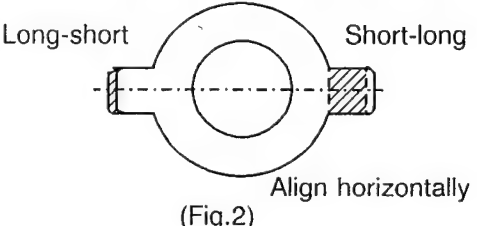
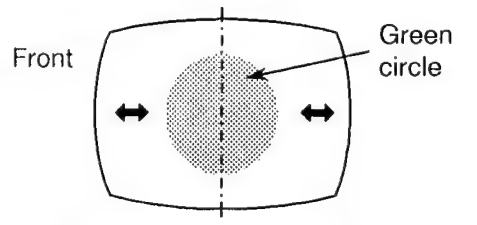
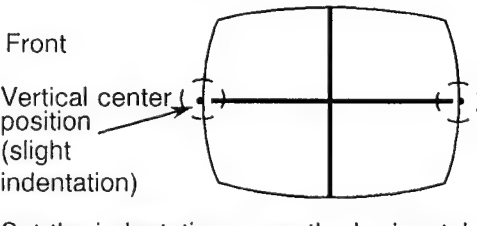


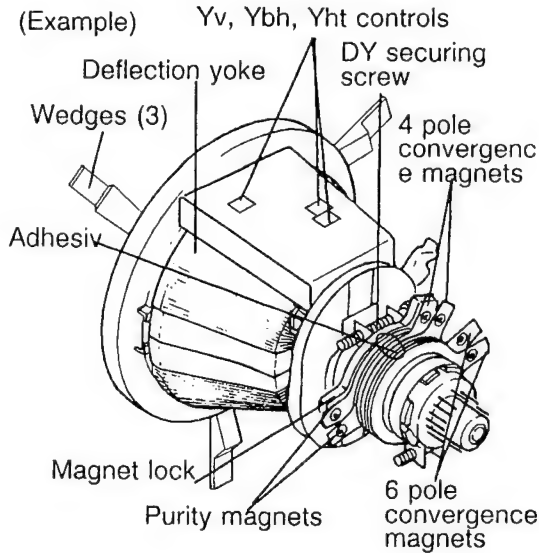
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Contrast (Video input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S04 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply an NTSC color bar input to Video A.</li> <li>2. Set the Color Off switch to off.</li> <li>3. Connect oscilloscope to TP-G.</li> <li>4. Adjust the waveform level to 24 Vp-p with S04.</li> <li>5. Set the Color Off switch to Color.</li> </ol> 
Chroma (Video input, PAL)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S05 (CHROMA) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply an NTSC color bar input to Video A.</li> <li>2. Connect oscilloscope to TP-G.</li> <li>3. Adjust S05 to obtain a straight line waveform.</li> </ol> 
Contrast (Video input, PAL)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S06 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply an NTSC color bar input to Video A.</li> <li>2. Set the Color Off switch to off.</li> <li>3. Connect oscilloscope to TP-G.</li> <li>4. Adjust the waveform level to 24 Vp-p with S06.</li> <li>5. Set the Color Off switch to Color.</li> </ol> 
Phase (Video input, NTSC 4.43)	Oscilloscope Signal generator (Color bar NTSC 4.43)	TP-B [CRT socket PWB]	S07 (PHASE) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply an NTSC 4.43 color bar input to Video A.</li> <li>2. Connect oscilloscope to TP-G.</li> <li>3. Adjust S07 to obtain a straight line waveform.</li> </ol> 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Chroma and phase (Y/C input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S08 (CHROMA) S09(PHASE) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply an NTSC color bar input to Y/C In.</li> <li>2. Set the menu Filter Select to Notch.</li> <li>3. Connect oscilloscope to TP-B.</li> <li>4. Alternately adjust S08 and S09 to obtain a straight line waveform.</li> <li>5. Set Filter Select to Comb.</li> </ol> 
Contrast (Y/C input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S10 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply an NTSC color bar input to Video A.</li> <li>2. Set the Color Off switch to off.</li> <li>3. Connect oscilloscope to TP-G.</li> <li>4. Adjust the waveform level to 24 Vp-p with S10.</li> <li>5. Set the Color Off switch to Color.</li> </ol> 
Chroma (Y/C input, PAL)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S11 (CHROMA) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply a PAL color bar input to Video A.</li> <li>2. Connect oscilloscope to TP-B.</li> <li>3. Adjust S11 to obtain a straight line waveform.</li> </ol> 
Chroma (Component input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S12 (CHROMA) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Set the menu RGB/Component to Component.</li> <li>2. Supply an NTSC color bar input to Component In.</li> <li>3. Connect oscilloscope to TP-B.</li> <li>4. Adjust S12 to obtain a straight line waveform.</li> <li>5. Return the menu RGB/Component to original setting.</li> </ol> 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Contrast (Component input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S13 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Set the Brightness control to minimum.</li> <li>2. Set the menu RGB/Component to Component.</li> <li>3. Supply an NTSC color bar input to Component In.</li> <li>4. Set the Color Off switch to off.</li> <li>5. Connect oscilloscope to TP-G.</li> <li>6. Adjust the waveform level to 32 Vp-p with S13.</li> <li>7. Set the Color Off switch to Color.</li> <li>8. Return the menu RGB/Component to original setting.</li> </ol> 
Contrast (RGB input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT socket PWB]	S14 (CONTRAST) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply an NTSC color bar input to RGB In.</li> <li>2. Connect oscilloscope to TP-G.</li> <li>3. Adjust the waveform level to 32 Vp-p with S14.</li> </ol> 
Color temperature (9300 K)	Signal generator (Resolution pattern, color bar) Color analyzer or color temperature meter		W01 (R CUTOFF) W02 (G CUTOFF) W03 (B CUTOFF) W04(R DRIVE) W05(G DRIVE) W06(B DRIVE) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply a resolution pattern input.</li> <li>2. Check that the menu Color Temp. is 9300.</li> <li>3. Set the Color Off switch to off.</li> <li>4. Set W01 to 18, W03 to 21, W05 to 32, and W02 to 25.</li> <li>5. Adjust W04 and W06 for the specified color temperature (reference: W04 = 25, W06 = 25) (X = 0.283, Y = 0.297)</li> <li>6. Supply a color bar input (black and white).</li> <li>7. Check for proper white balance tracking. If deviated in the dark components, adjust with W01 and W03.</li> </ol> <ul style="list-style-type: none"> <li>• Adjustment with color temperature meter: Apply the sensor to the CRT, adjust and measure. If deviated, repeatedly adjust and measure to obtain the specified color temperature.</li> </ul>

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Color temperature (6500 K)	Signal generator (Resolution pattern, color bar) Color analyzer or color temperature meter		W07 (R CUTOFF) W09 (B CUTOFF) W10(R DRIVE) W11 (G DRIVE) W12(B DRIVE) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Supply a resolution pattern input.</li> <li>2. Set the menu Color Temp. to 6500.</li> <li>3. Set the Color Off switch to off.</li> <li>4. Set W07 to 25, W09 to 11, and W08 to 25.</li> <li>5. Set W11 to 32.</li> <li>6. Adjust W10 and W12 for the specified color temperature (reference: W10 = 28, W12 = 21) (X = 0.313, Y = 0.329)</li> <li>7. Supply a color bar input (black and white).</li> <li>8. Check for proper white balance tracking. If deviated in the dark components, adjust with W07 and W09.</li> <li>9. Return the menu Color Temp. to original setting.</li> </ol> <ul style="list-style-type: none"> <li>• Adjustment with color temperature meter: Apply the sensor to the CRT, adjust and measure. If deviated, repeatedly adjust and measure to obtain the specified color temperature.</li> </ul>
Bright	Signal generator (Split color bar)		S01 (BRIGHT) [SERVICE MENU]	<ol style="list-style-type: none"> <li>1. Adjust S01 to where the split color 0 % black component faintly brightens.</li> <li>2. Supply another signal and confirm absence of black deviation.</li> </ol>
On screen menu	Signal generator (color bar)		NTSC SETUP COMPO. LEVEL COLOR TEMP. [Menu screen]	<ol style="list-style-type: none"> <li>1. Press the MENU button to display the menu screen.</li> <li>2. Set the NTSC SETUP item to 7.5.</li> <li>3. Set the COMPO. LEVEL item to BETA75.</li> <li>4. set the COLOR TEMP. item to 6500.</li> <li>5. Again press the MENU button to release the menu screen.</li> </ol>

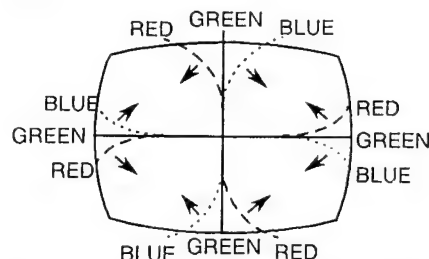
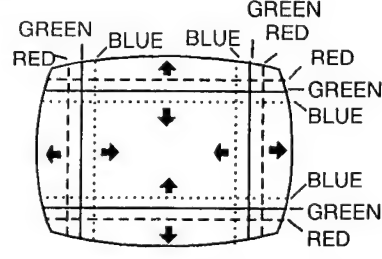
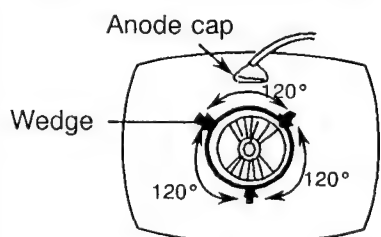
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Purity adjustment	Degaussing coil Signal generator(green raster, red raster, blue raster, cross pattern signals)		Purity magnets Convergence magnets	<ol style="list-style-type: none"> <li>1. Be sure to degauss using the degaussing coil.</li> <li>2. Carefully remove the wedges.</li> <li>3. Peel the adhesive from the 6 magnets to allow turning the magnets.</li> <li>4. Supply an green raster signal input.</li> <li>5. Loosen the deflection yoke securing screw and slide the yoke fully rearward to produce a red circle display.</li> <li>6. Overlap the long with short tabs of the 2 purity magnets and position these horizontally.</li> </ol> <p>*Set the 2 purity magnets horizontally.</p>  <p>(Fig.2)</p> <ol style="list-style-type: none"> <li>7. Adjust the rotational angle between the tabs to produce a green circle at the center of the screen.</li> </ol>  <p>Set the green area at the</p> <p>(Fig.3)</p> <ol style="list-style-type: none"> <li>8. Supply a cross pattern input and check for deviation of the vertical center position. If deviated, while maintaining the angle between the tabs, rotate the magnets to center the vertical position to the extent possible.</li> </ol>  <p>Set the indentations near the horizontal line (tolerance about <math>\pm 5</math> mm)</p> <p>(Fig.4)</p>



(Fig.1)

Note: Do not disturb Yv, Ybh and Yht controls.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
				9. Repeat steps 7 and 8. 10. Supply an all green signal input and shift the deflection yoke forward to where the overall screen is a green single color. 11. Also check the red and blue single color rasters. 12. Suitably tighten the deflection yoke securing screw to prevent forward to rearward shifting.
Static (center) convergence adjustment	Signal generator(crosshatch)		Deflection yoke Wedges Convergence magnets	1. Supply a crosshatch pattern input. 2. Move the deflection yoke up, down, left and right to roughly adjust the perimeter convergence. Temporarily secure with one wedge at the top. <div data-bbox="1011 698 1362 972" data-label="Image"> </div> 3. Use the 4 pole magnets to overlap red and blue at the picture center to produce magenta. 4. Use the 6 pole magnets to overlap the green lines with the magenta. 5. If required, repeat steps 1 and 2. <div data-bbox="1005 1191 1484 1500" data-label="Image"> </div>

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Dynamic (perimeter) convergence adjustment	Signal generator(crosshatch)		Wedges Deflection yoke	<ol style="list-style-type: none"> <li>1. Supply a crosshatch pattern input.</li> <li>2. Remove the wedge temporarily securing the deflection yoke.</li> <li>3. Wobble the deflection yoke vertically and set the convergence deviation as indicated in Fig.7. Again temporarily secure by inserting a wedge at the top.</li> <li>4. Wobble the deflection yoke left and right and set the convergence deviation as indicated in Fig.8.</li> <li>5. Alternately repeat steps 2 and 3 and adjust for minimum convergence deviation.</li> </ol> <p>Front</p>  <p>Arrow directions when yoke is tilted upward (opposite directions when tilted downward)</p> <p>(Fig.7)</p> <p>Front</p>  <p>Arrow directions when yoke is tilted rightward (opposite directions when tilted leftward)</p> <p>(Fig.8)</p>
After completing convergence adjustment	Double sided tape Adhesive		Wedges Magnet lock	<ol style="list-style-type: none"> <li>1. Insert the wedges as shown in Fig.9.</li> </ol>  <p>Securing with 3 wedges (Fig.9)</p> <p>Note: Double sided tape is applied to the wedges. Peel off the covering to secure. Do not reuse old wedges, replace them.</p> <p>Wedge part number: CE40764-00A</p> <ol style="list-style-type: none"> <li>2. Tighten the deflection yoke securing screw.</li> <li>3. Apply adhesive to secure the 6 magnets as indicated in Fig.1.</li> </ol>

# Schematic Diagram and P.W. Boards

## IMPORTANT SAFETY NOTICE

THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION, FIRE AND ELECTRICAL SHOCK HAZARDS.

WHEN SERVICING, IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.

## NOTE ON USING CIRCUIT DIAGRAMS

### 1. SAFETY

The components identified by the  $\triangle$  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

### 2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1) Input signal : PAL Color bar signal
- (2) Setting positions of each knob/button and variable resistor : Original setting position when shipped
- (3) Internal resistance of tester : DC 20k $\Omega$ /V
- (4) Oscilloscope sweeping time : H  $\Rightarrow$  20 $\mu$ S/div  
: V  $\Rightarrow$  5mS/div  
: Others  $\Rightarrow$  Sweeping time is specified
- (5) Voltage values : All DC voltage values

\* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

### 3. INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board : R1209 $\rightarrow$ R209

### 4. INDICATIONS ON THE CIRCUIT DIAGRAM

#### (1) Resistors

- Resistance value
    - No unit : [ $\Omega$ ]
    - K : [K $\Omega$ ]
    - M : [M $\Omega$ ]
  - Rated allowable power
    - No indication : 1/6 [W]
    - Others : As specified
  - Type
    - No indication : Carbon resistor
    - OMR : Oxide metal film resistor
    - MFR : Metal film resistor
    - MPR : Metal plate resistor
    - UNFR : Uninflammable resistor
    - FR : Fusible resistor
- \* Composition resistor 1/2 [W] is specified as 1/2S or Comp.




#### (2) Capacitors

- Capacitance value
  - 1 or higher : [pF]
  - less than 1 : [ $\mu$ F]
- Withstand voltage
  - No indication : DC50 [V]
  - Others : DC withstand voltage [V]
  - AC indicated : AC withstand voltage [V]
- Capacitors
  - 47/50 [Example]: Capacitance value [ $\mu$ F]/withstand voltage [V]
- Type
  - No indication : Ceramic capacitor
  - MY : Mylar capacitor
  - MM : Metalized mylar capacitor
  - PP : Polypropylene capacitor
  - MPP : Metalized polypropylene capacitor
  - MF : Metalized film capacitor
  - TF : Thin film capacitor
  - BP : Bipolar electrolytic capacitor
  - TAN : Tantalum capacitor

#### (3) Coils



- No unit : [ $\mu$ H]
- Others : As specified

#### (4) Power Supply




-  : B1
-  : B2 (12V)
-  : 5V

\* Respective voltage values are indicated.





#### (5) Test Point

-  : Test point
-  : Only test point display

#### (6) Connecting method

-  : Connector
-  : Wrapping or soldering
-  : Receptacle

#### (7) Ground symbol

-  : LIVE side ground
-  : ISOLATED (NEUTRAL) side ground
-  : EARTH ground
-  : DIGITAL ground



## 5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (  $\perp$  ) side GND and the ISOLATED(NEUTRAL) : (  $\nmid$  ) side GND. Therefore, care must be taken for the following points.

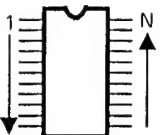
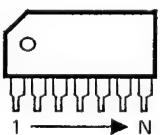
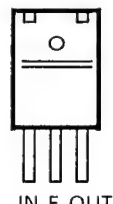
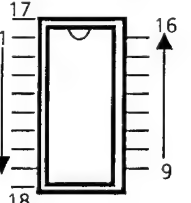
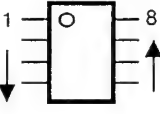
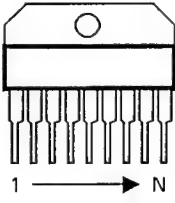
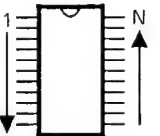
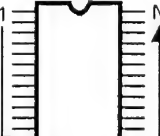
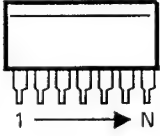
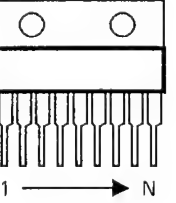
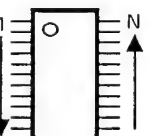
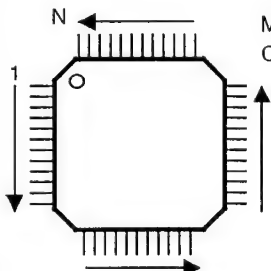
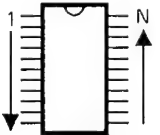
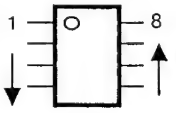
(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.




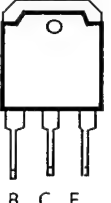
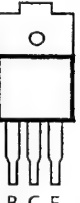
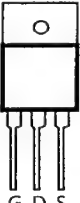
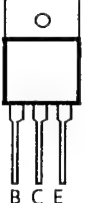

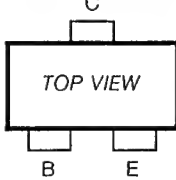
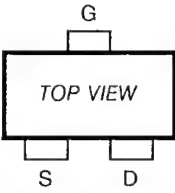
◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

## ■ SEMICONDUCTOR SHAPES

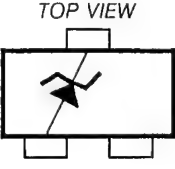

### ● IC

 <p>TC4053BP TC4066BP HD74LS04P TC4538BP HD74LS05P HD74LS00P AN5640</p>	 <p>LA7016</p>	 <p>AN7808 AN7812F TA79012S AN7805F</p>
 <p>HA11423</p>	 <p>NJM4560D <math>\mu</math>PC358 ST24BM-1400</p>	 <p><math>\mu</math>PC1498H</p>
 <p>FA5301P</p>	 <p>TDA4680 TDA4670 AN5625N</p>	 <p><math>\mu</math>PC358HA</p>
 <p>AN5265</p>	 <p>MB90077PF-109</p>	<p>(Flat package IC)</p>  <p>MB89647PF-113 CXD2018Q</p>
<p>(Flat package IC)</p>  <p>HD74HC32FP HD74HC158FP</p>	<p>(Flat package IC)</p>  <p><math>\mu</math>PC4558G-W</p>	

# ● TRANSISTOR

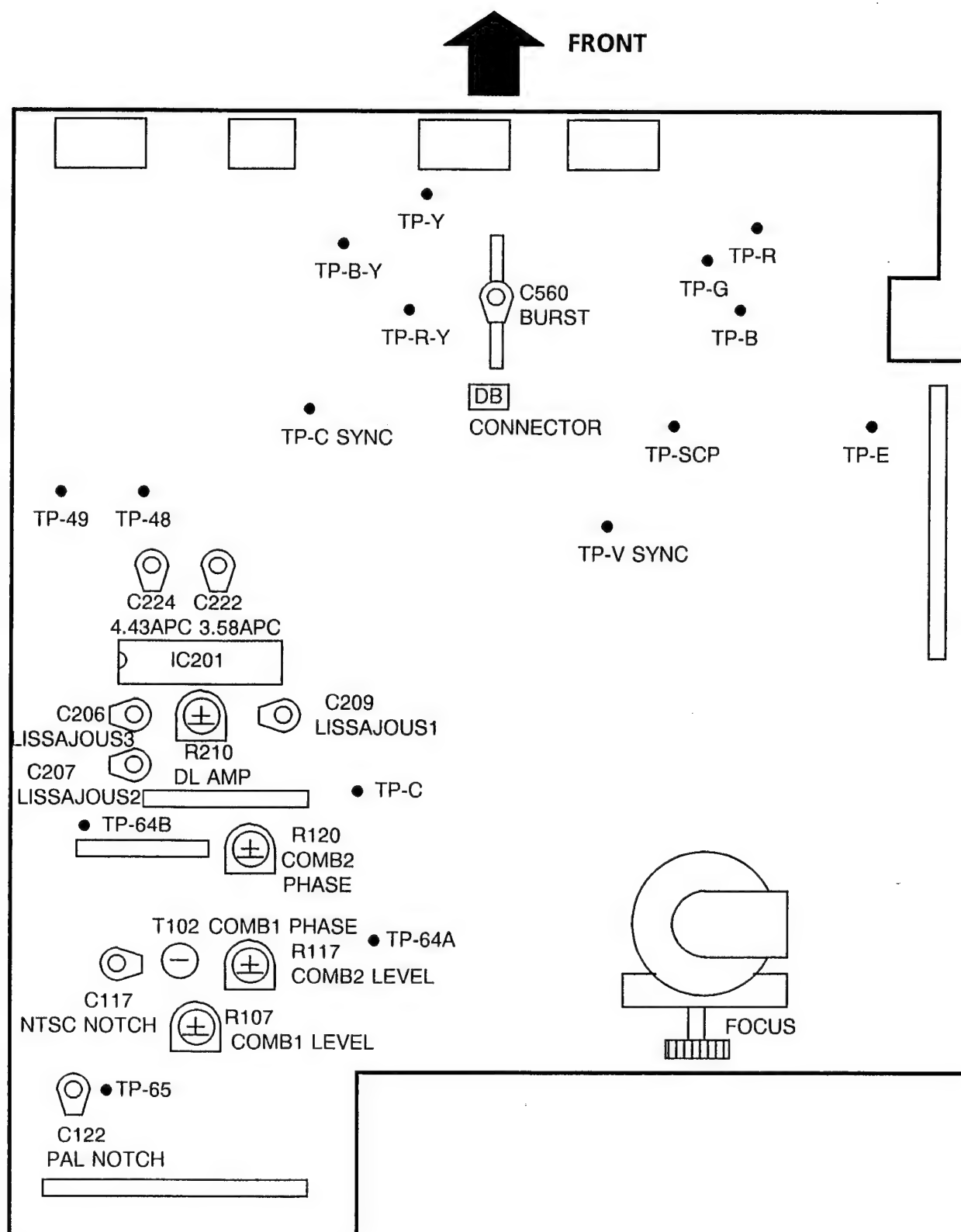
 <p>[ Bottom View ]</p> <p>2SC1740S(R) 2SC3311A(Q)-T</p>	 <p>[ Bottom View ]</p> <p>2SC3334 2SA1321 2SC1472K 2SA1370(E) 2SA562TM 2SC3187-T 2SC1959(Y) 2SA1309 2SC1815(YG)-T</p>	 <p>2SC4632</p>
 <p>2SC4589-C1</p>	 <p>2SD1408 2SD1409</p>	 <p>2SK1118</p>
 <p>2SC4544</p>	 <p>2SC4502</p>	<p>(CHIP TRANSISTOR)</p>  <p>2SC2712(YG) 2SA1162(YG)</p>
<p>(CHIP FET)</p>  <p>2SK374(Q)</p>		

# ● DIODE

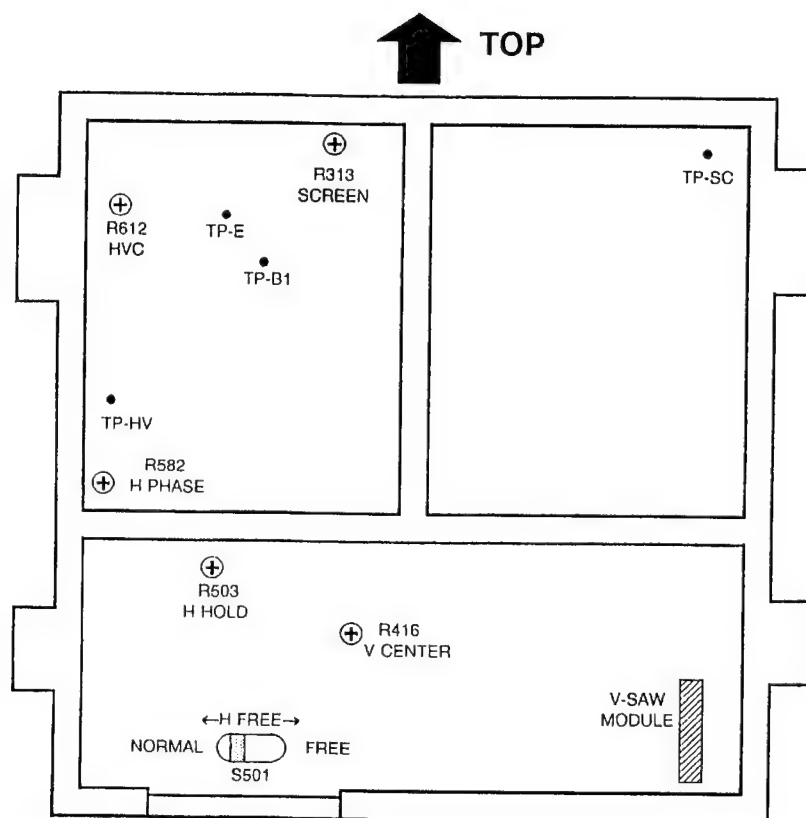
<p>(CHIP DIODE)</p>  <p>MA3056(L)-W MA3150(M)-W MA151K-W</p>	<p>(CHIP DIODE)</p>  <p>MA8054-W MA8130-W</p>	
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# ■ ALIGNMENT LOCATION

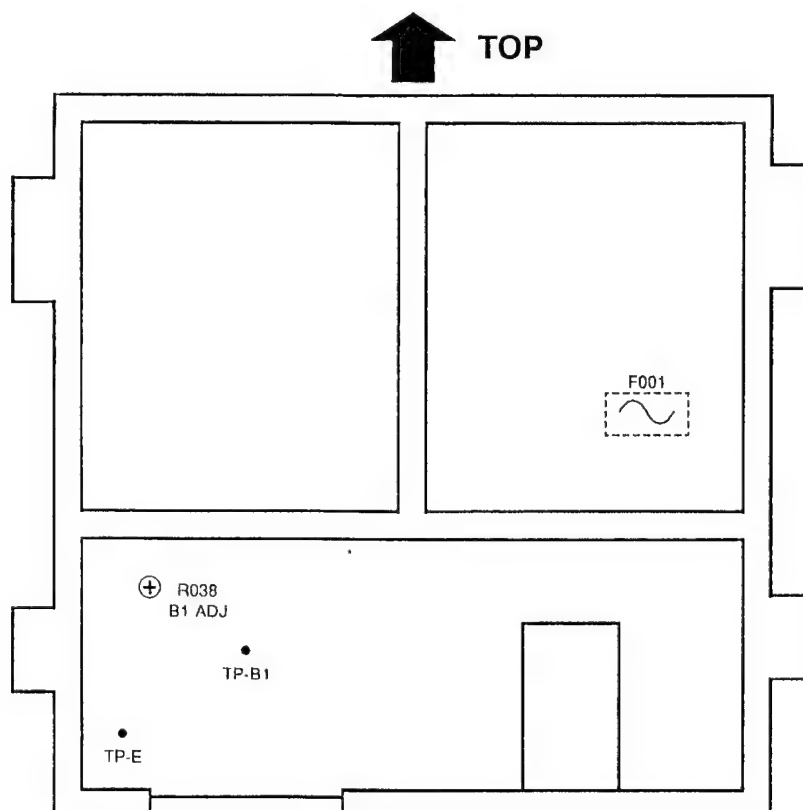
## ● SIGNAL PWB (PARTS SIDE)



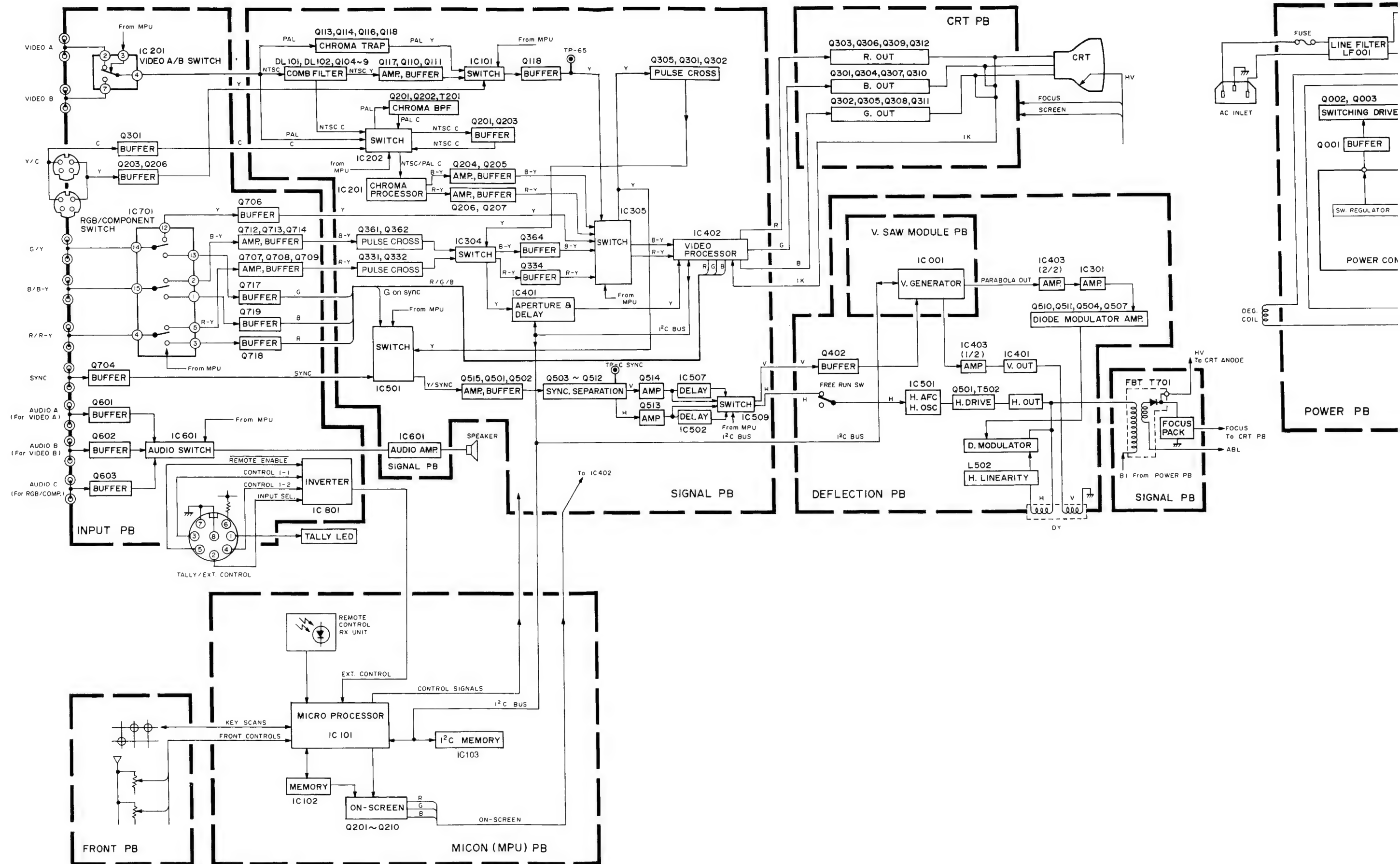
## ● DEFLECTION PWB (PATTERN SIDE)

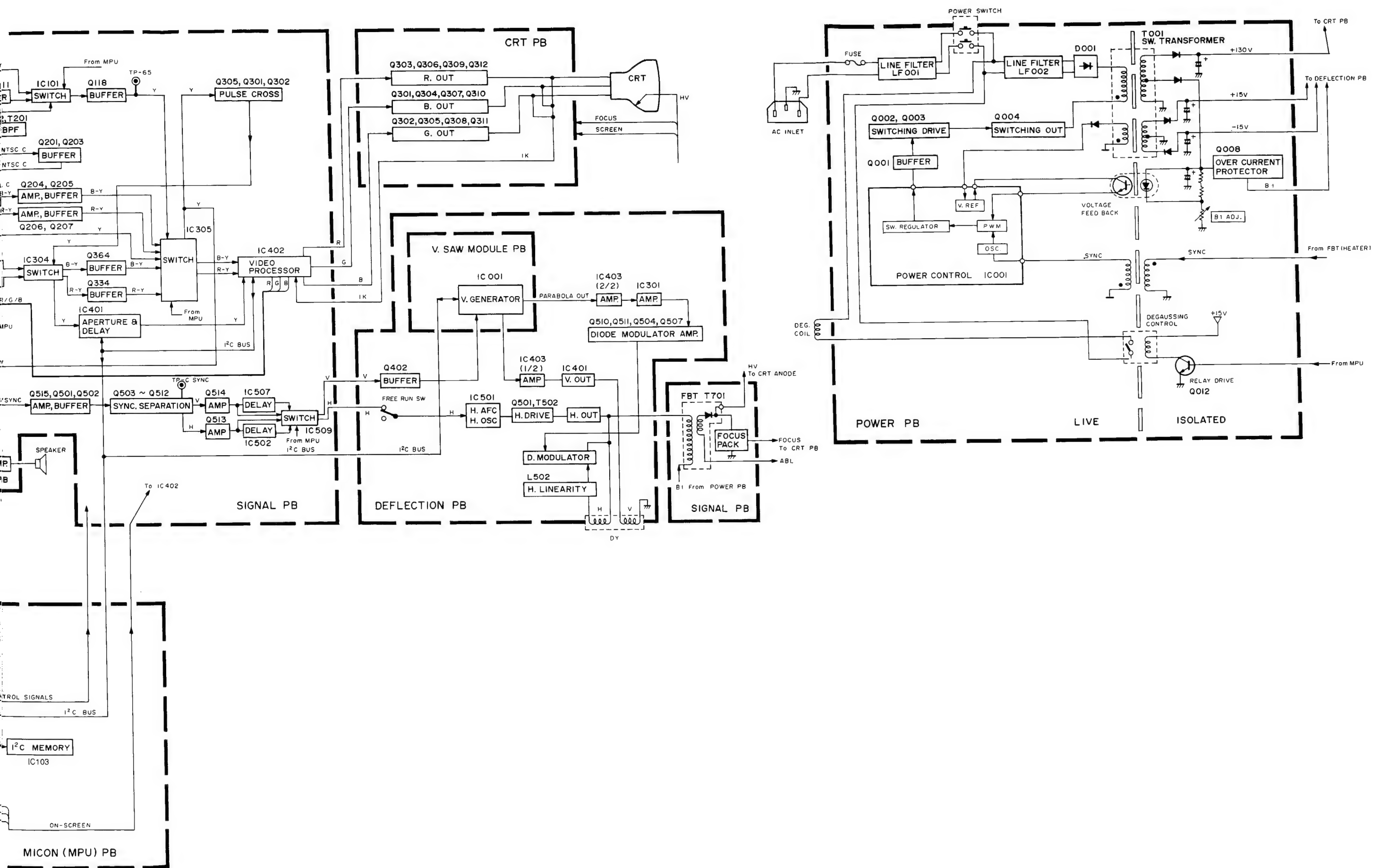


## ● POWER PWB (PATTERN SIDE)

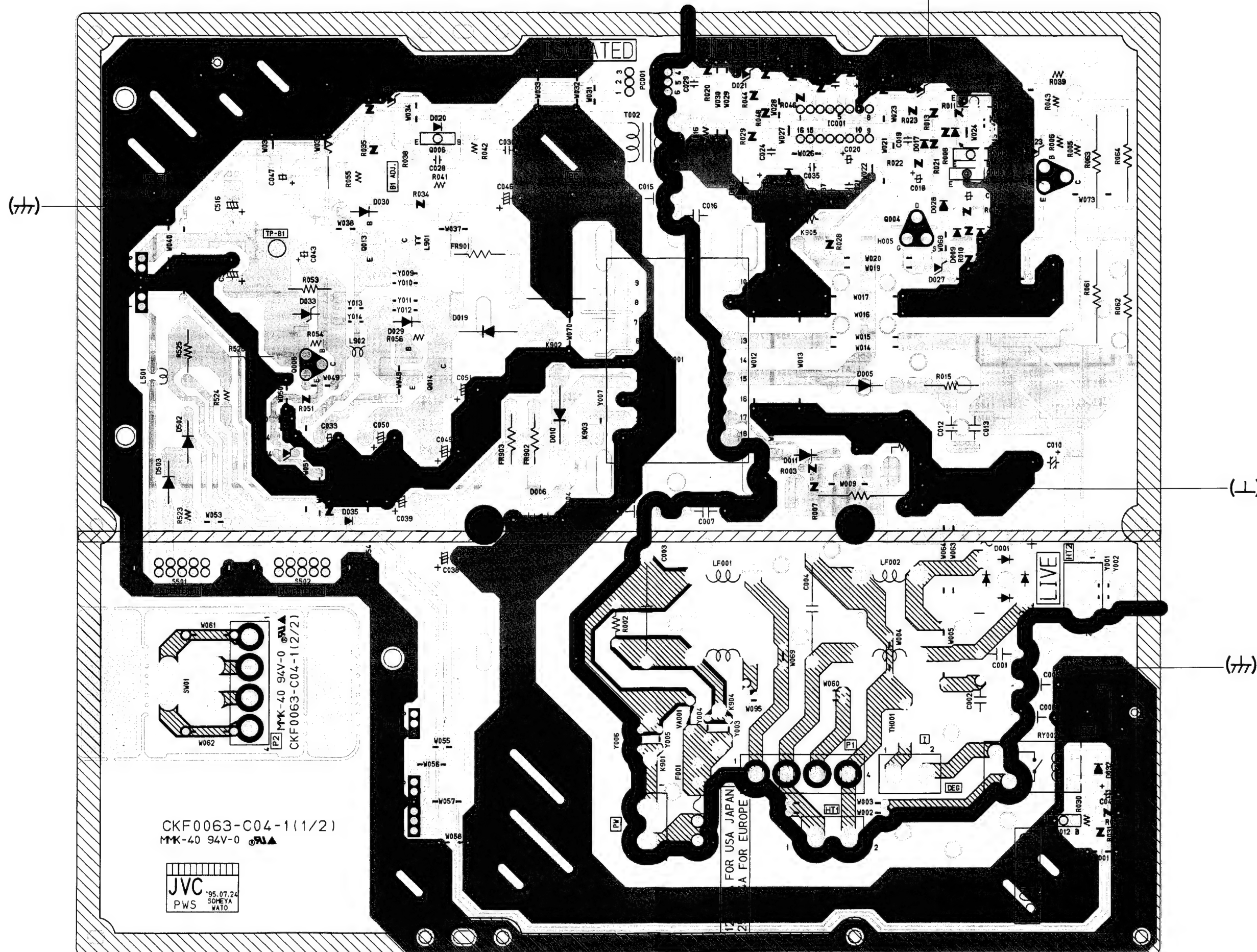


# ■ BLOCK DIAGRAM

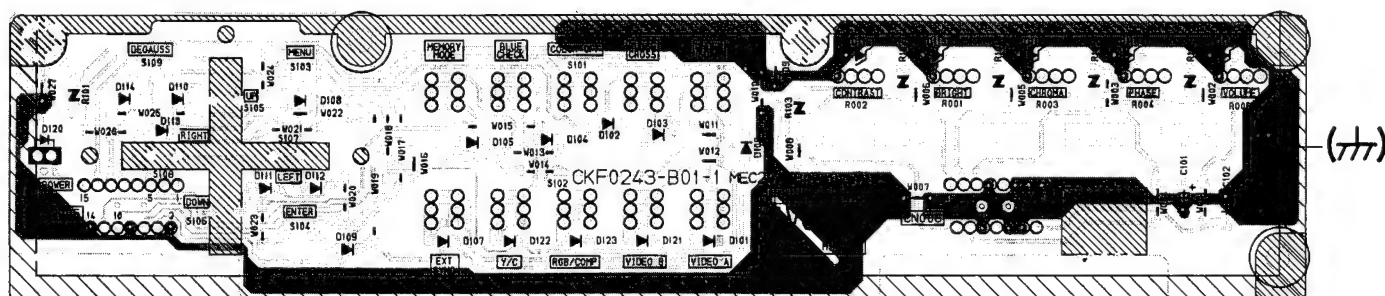




(⊥)

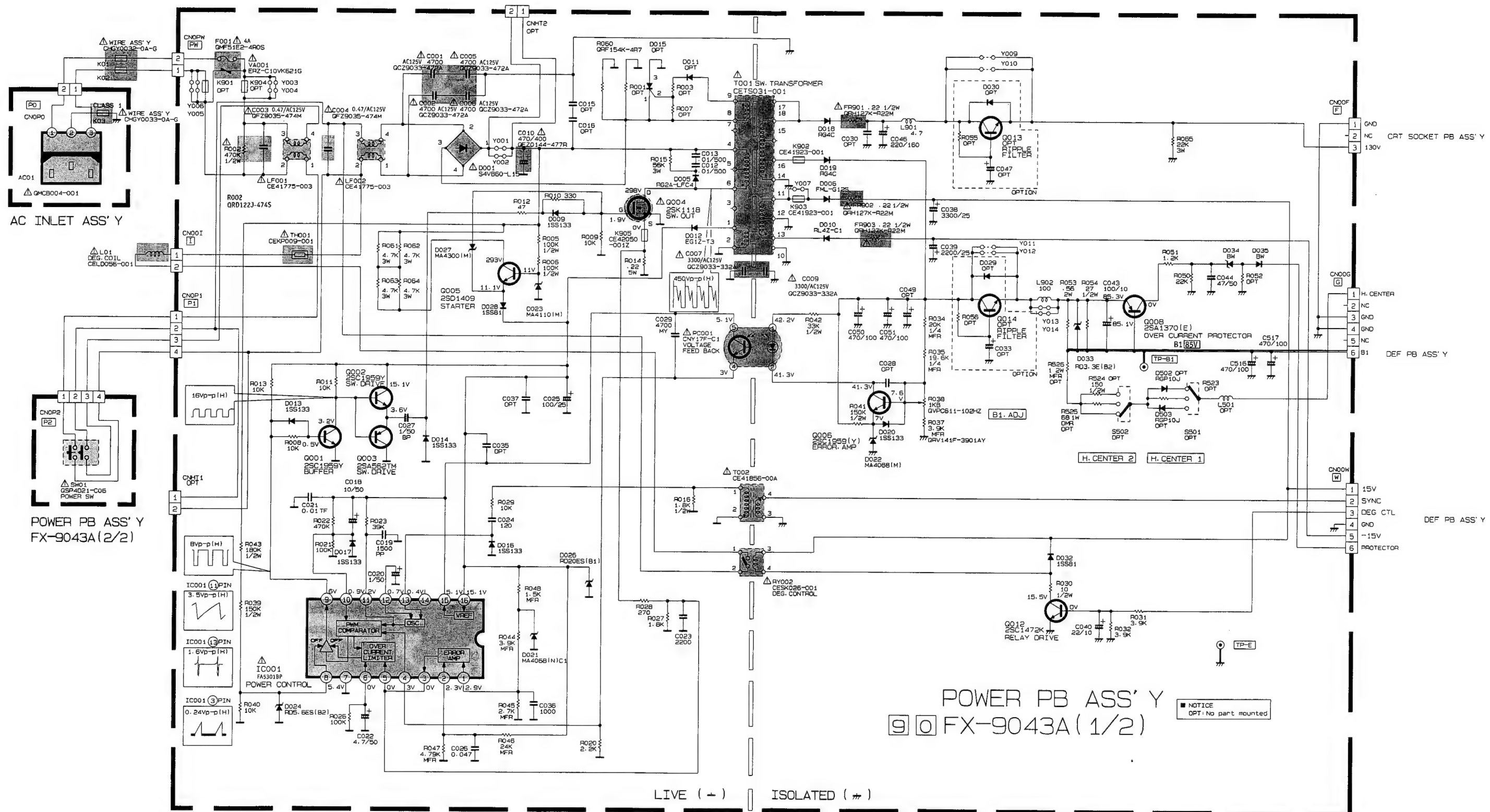






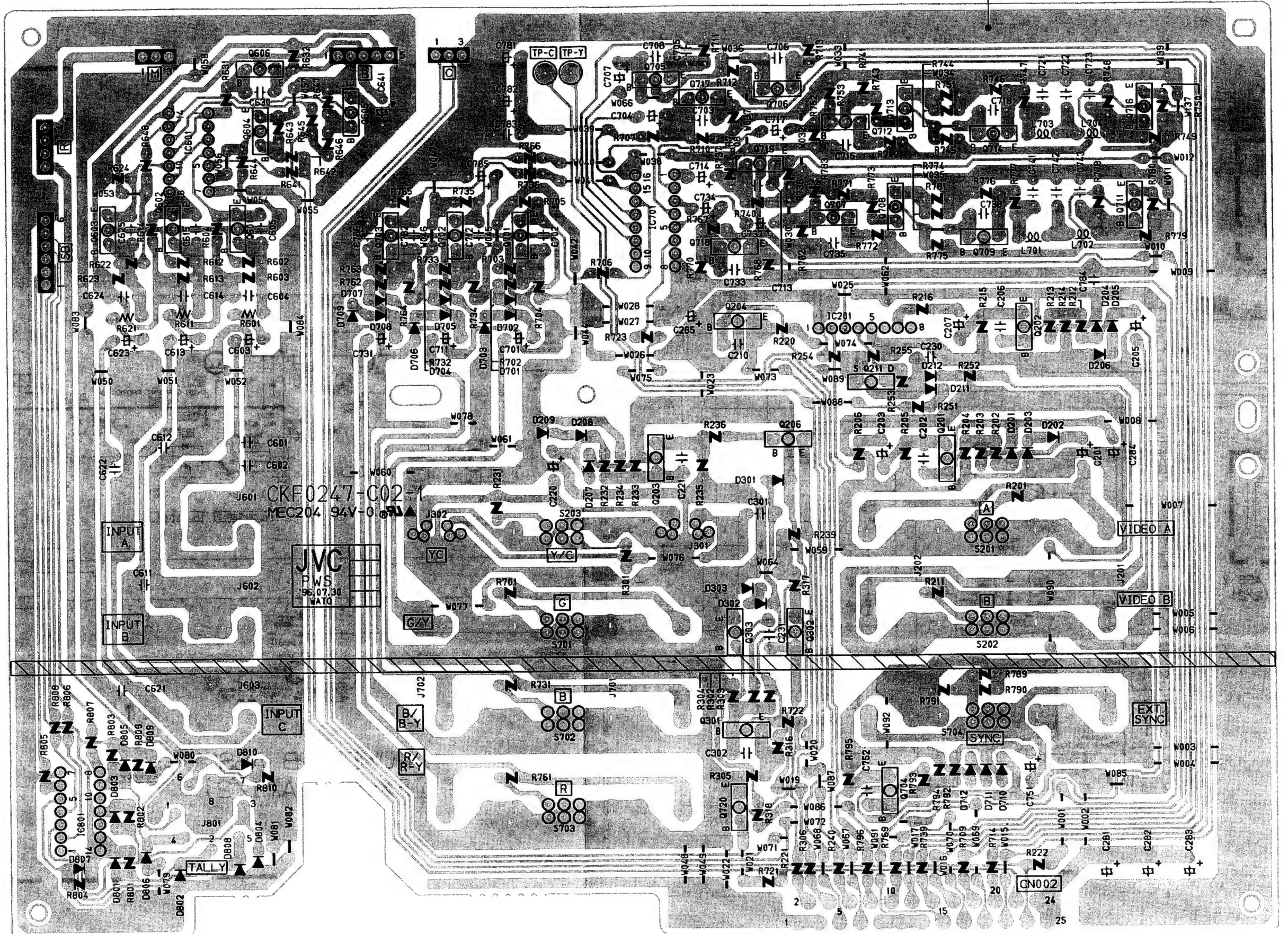


### POWER PWB CIRCUIT DIAGRAM



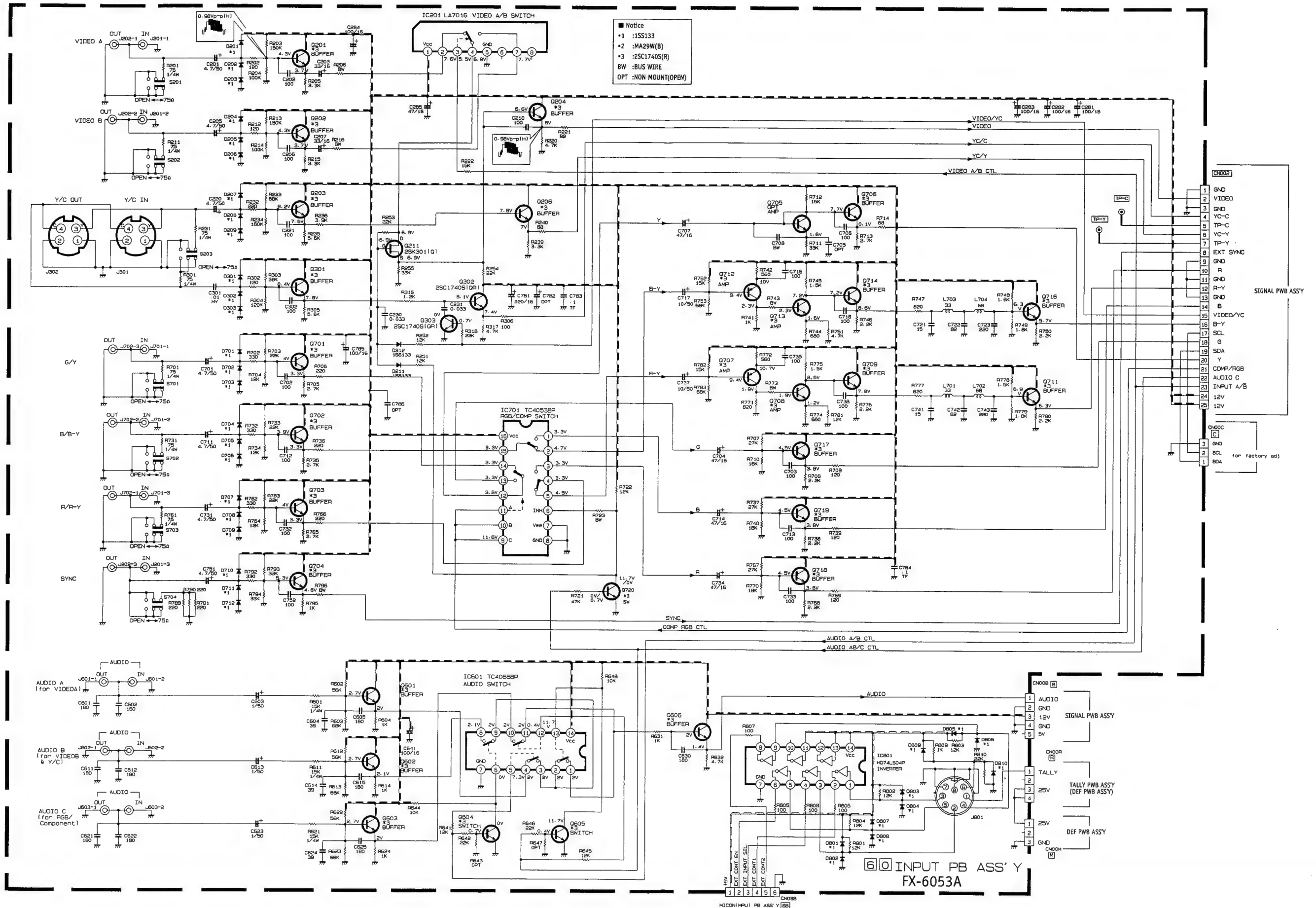
INPUT PWB PATTERN DIAGRAM (FX-6047A)

(77)

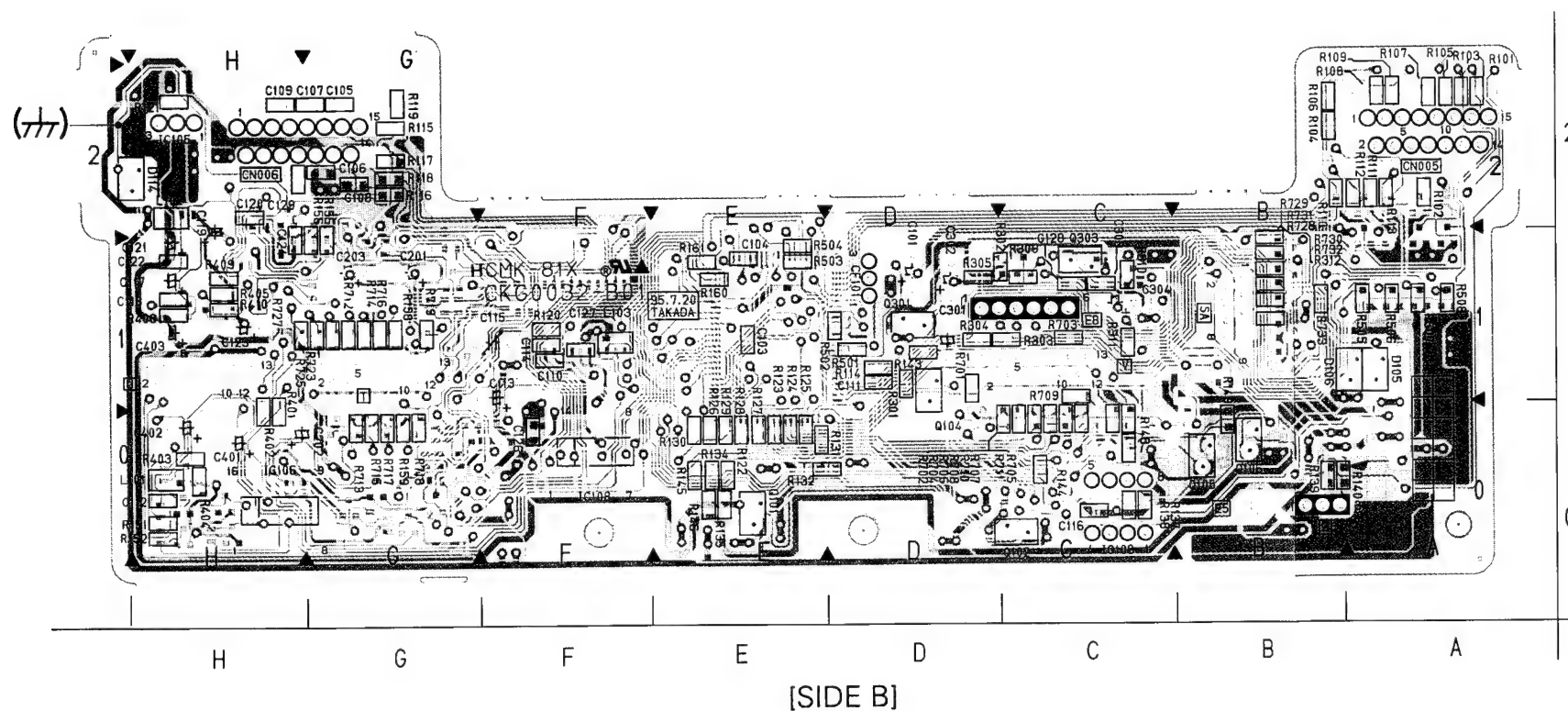
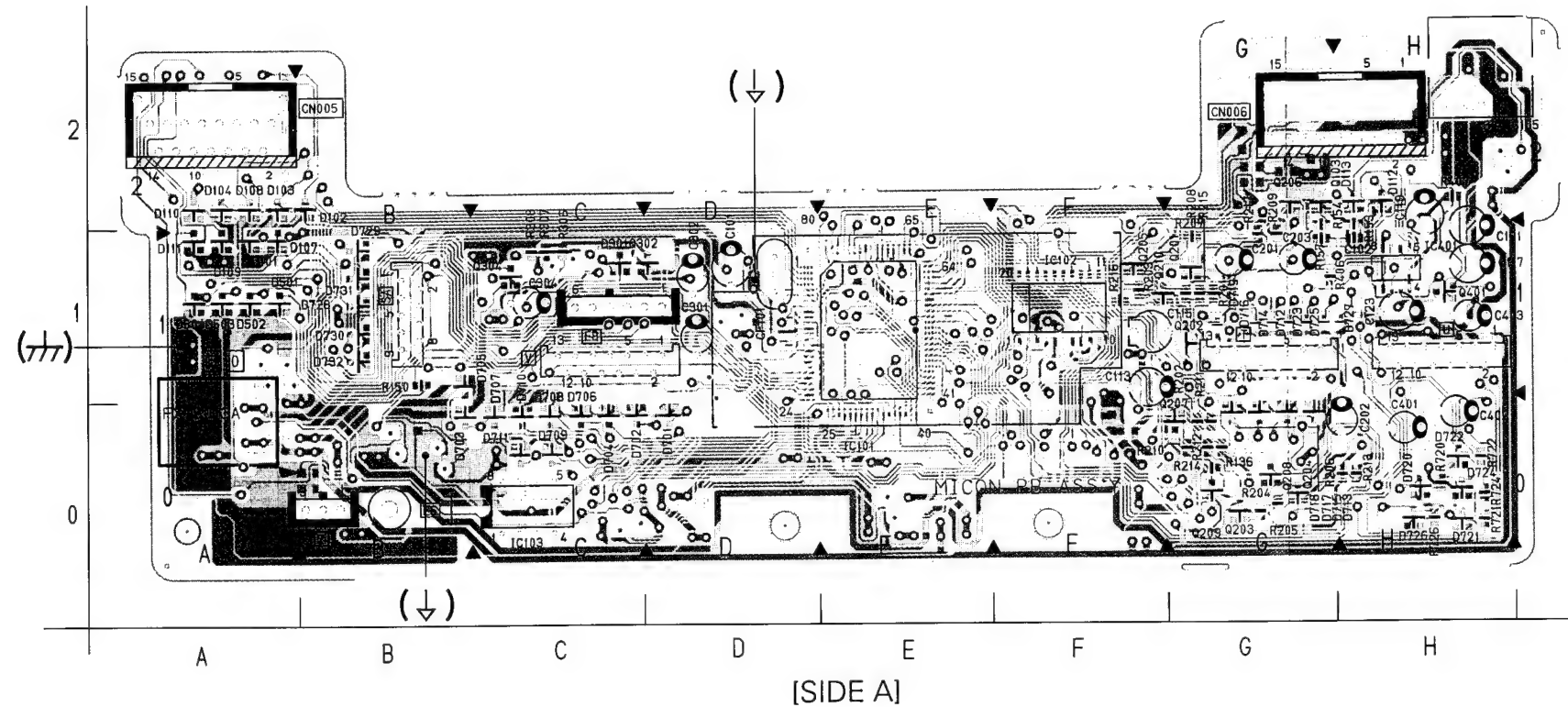




## INPUT PWB CIRCUIT DIAGRAM



MICOM (MPU) PWB PATTERN DIAGRAM (FX-5015A)

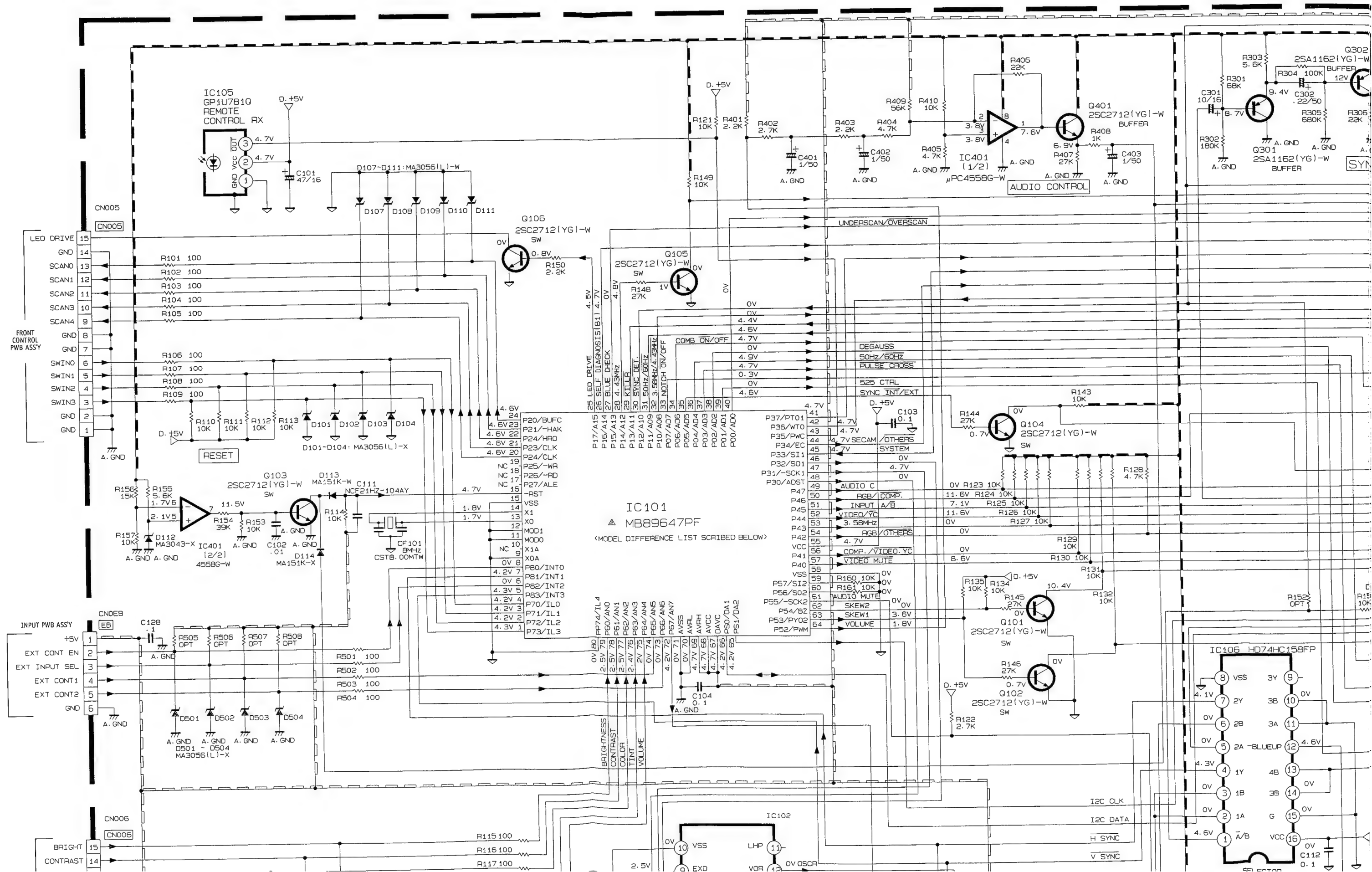


■ ADDRESS TABLE

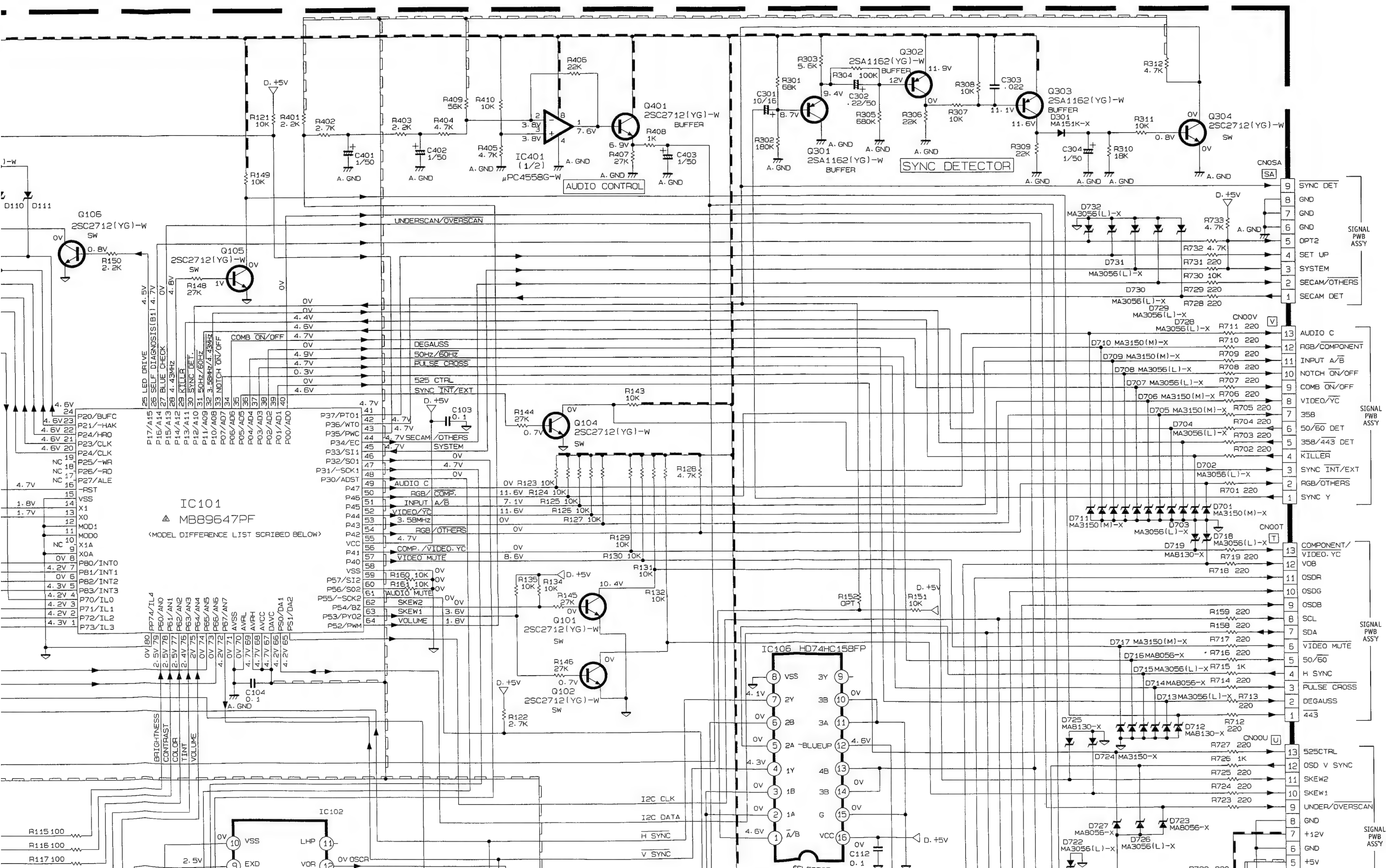
SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE
C102	H1	A	D724	H0	A	R127	E0	B	R405	H1	B
C103	E1	B	D725	G1	A	R128	E0	B	R406	G1	A
C104	E1	B	D726	H0	A	R129	E0	B	R407	H2	A
C105	G2	B	D727	H1	A	R130	E0	B	R408	H1	B
C106	G2	B	D728	B1	A	R131	E0	B	R409	H1	B
C107	G2	B	D729	B1	A	R132	E0	B	R410	H1	B
C108	G2	B	D730	B1	A	R133	E0	B	R501	D1	B
C109	H2	B	D731	B1	A	R135	E0	B	R502	D1	B
C110	F1	B	D732	B1	A	R136	G0	A	R503	E1	B
C111	D1	B	IC101	E1	A	R137	C0	B	R504	E1	B
C112	H0	B	IC102	F1	A	R138	C0	B	R505	A1	B
C114	F1	B	IC106	H0	B	R139	B0	B	R506	A1	B
C116	C0	B	IC108	F0	B	R140	B0	B	R507	A1	B
C118	H1	B	IC401	H1	A	R143	D1	B	R508	A1	B
C120	H2	B	L101	H0	B	R144	C0	B	R701	D1	B
C122	H1	B	L102	H2	B	R145	E0	B	R702	C0	B
C124	H1	B	L103	F1	B	R146	E0	B	R703	C1	B
C126	F0	B	Q101	E0	B	R148	C0	B	R704	C0	B
C127	F1	B	Q102	C0	B	R149	B0	B	R705	C0	B
C128	C1	B	Q103	G2	A	R150	B1	A	R706	C0	B
C129	H2	B	Q104	D1	B	R151	H0	B	R707	C0	B
C303	C1	B	Q105	B0	B	R152	H0	B	R708	C0	B
D101	A1	A	Q106	B0	B	R153	H1	A	R709	C1	B
D102	B2	A	Q201	G1	A	R154	G1	A	R710	C0	B
D103	A2	A	Q202	G1	A	R155	G1	B	R711	C0	B
D104	A2	A	Q203	G0	A	R156	G1	B	R712	G1	B
D105	A1	B	Q204	G0	A	R157	G1	A	R713	G0	B
D106	A1	B	Q205	F1	A	R158	G1	B	R714	G1	B
D107	A1	A	Q206	G2	A	R159	G0	B	R715	G0	B
D108	A2	A	Q207	G0	A	R160	E1	B	R716	G1	B
D109	A1	A	Q208	G0	A	R161	E1	B	R717	G0	B
D110	A2	A	Q209	G0	A	R201	G1	A	R718	G0	B
D111	A1	A	Q210	F1	A	R202	G0	A	R719	G1	B
D112	H2	A	Q301	D1	B	R203	F1	A	R720	H0	A
D113	H2	A	Q302	D1	A	R204	G0	A	R721	H0	A
D114	H2	B	Q303	C1	B	R205	G0	A	R722	H0	A
D301	C1	A	Q304	C1	A	R206	H0	A	R723	G1	B
D501	A1	A	Q401	H1	A	R207	G1	A	R724	H0	A
D502	A1	A	R101	A2	B	R208	G1	A	R725	G1	B
D503	A1	A	R102	A2	B	R209	G1	A	R726	H0	A
D504	A1	A	R103	A2	B	R210	G0	A	R727	H1	B
D701	D0	A	R104	B2	B	R211	G0	A	R728	B1	B
D702	C0	A	R105	A2	B	R212	G0	A	R729	B1	B
D703	B0	A	R106	B2	B	R213	H0	A	R730	B1	B
D704	C0	A	R107	A2	B	R214	G0	A	R731	B1	B
D705	B1	A	R108	A2	B	R215	G1	A	R732	B1	B
D706	C0	A	R109	A2	B	R216	F1	A	R733	B1	B
D707	C0	A	R110	B2	B	R217	G1	A			
D708	C0	A	R111	A2	B	R301	D1	B			
D709	C0	A	R112	A2	B	R302	C1	B			
D710	C0	A	R113	A2	B	R303	C1	B			
D711	C0	A	R114	D1	B	R304	D1	B			
D712	G1	A	R115	G2	B	R305	D1	B			
D713	G0	A	R116	G2	B	R306	C1	A			
D714	G1	A	R117	G2	B	R307	C1	A			
D715	G0	A	R118	G2	B	R308	C1	A			
D716	G1	A	R119	G2	B	R309	C1	B			
D717	G0	A	R120	F1	B	R310	C1	B			
D718	G0	A	R121	H2	B	R311	C1	B			
D719	G1	A	R122	E0	B	R312	B1	B			
D720	H0	A	R123	E0	B	R401	H0	B			
D721	H0	A	R124	E0	B	R402	H0	B			
D722	H0	A	R125	E0	B	R403	H0	B			
D723	G1	A	R126	E0	B	R404	H0	B			

※This table shows only chip components

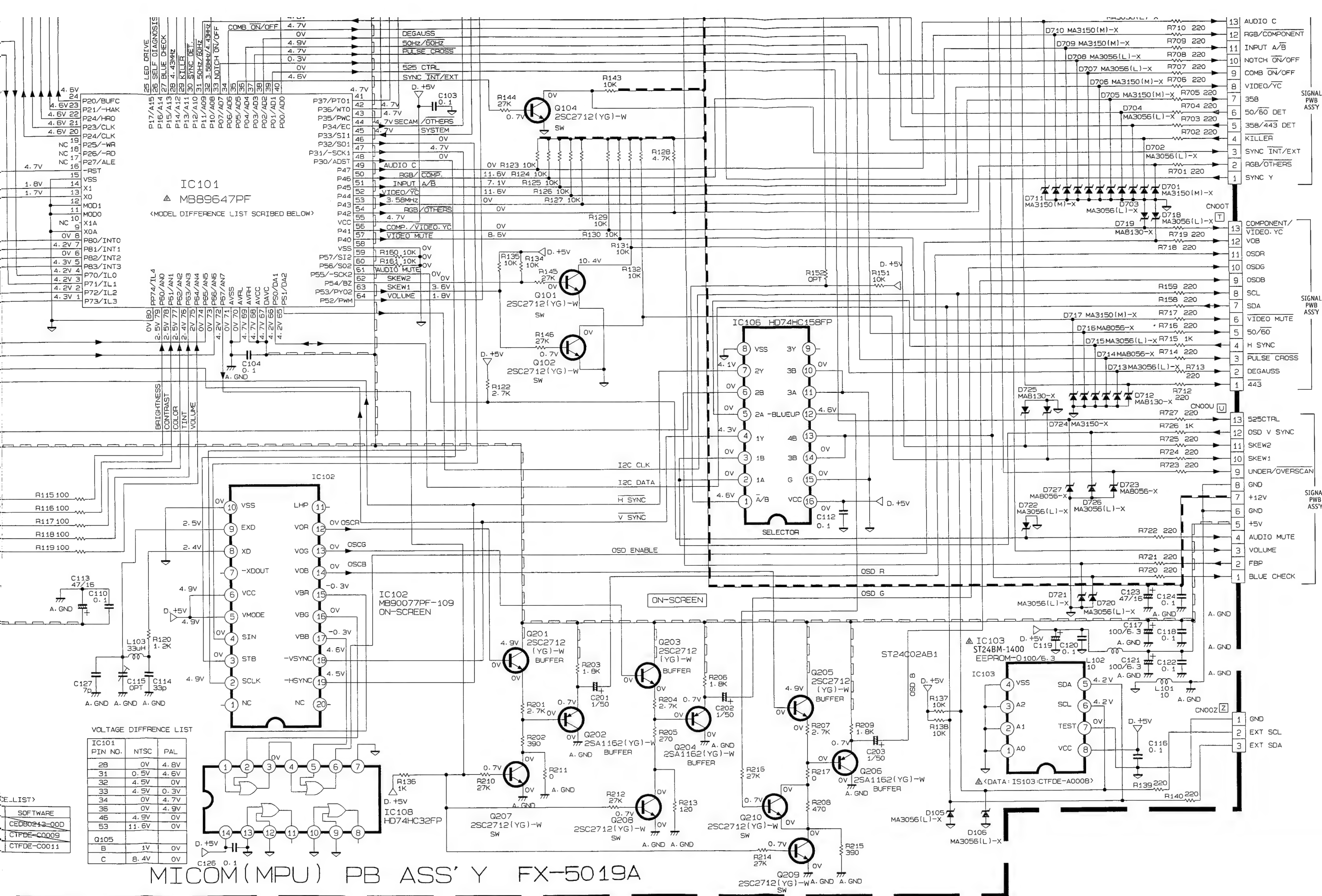
# MICOM (MPU) PWB CIRCUIT DIAGRAM





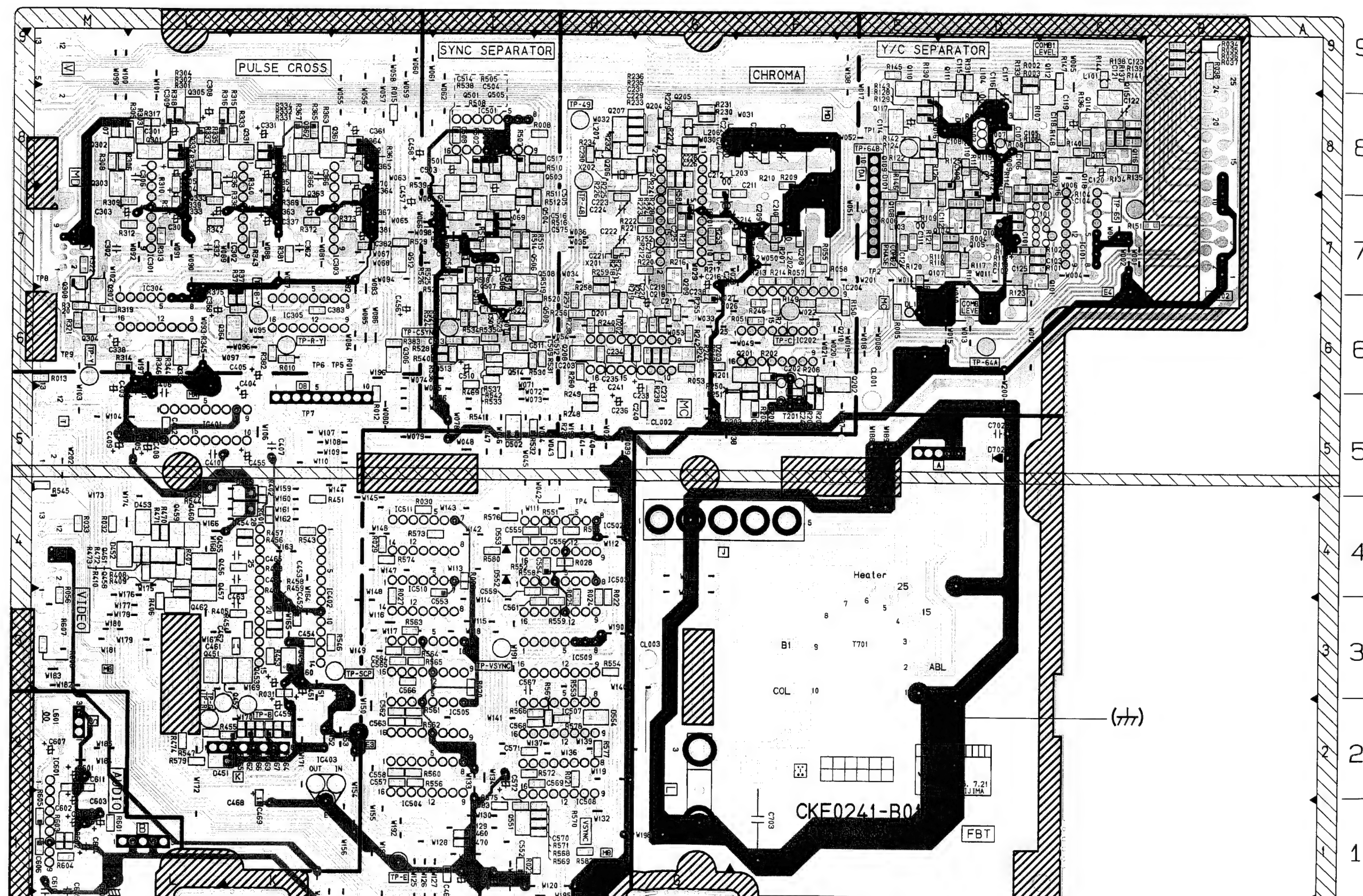






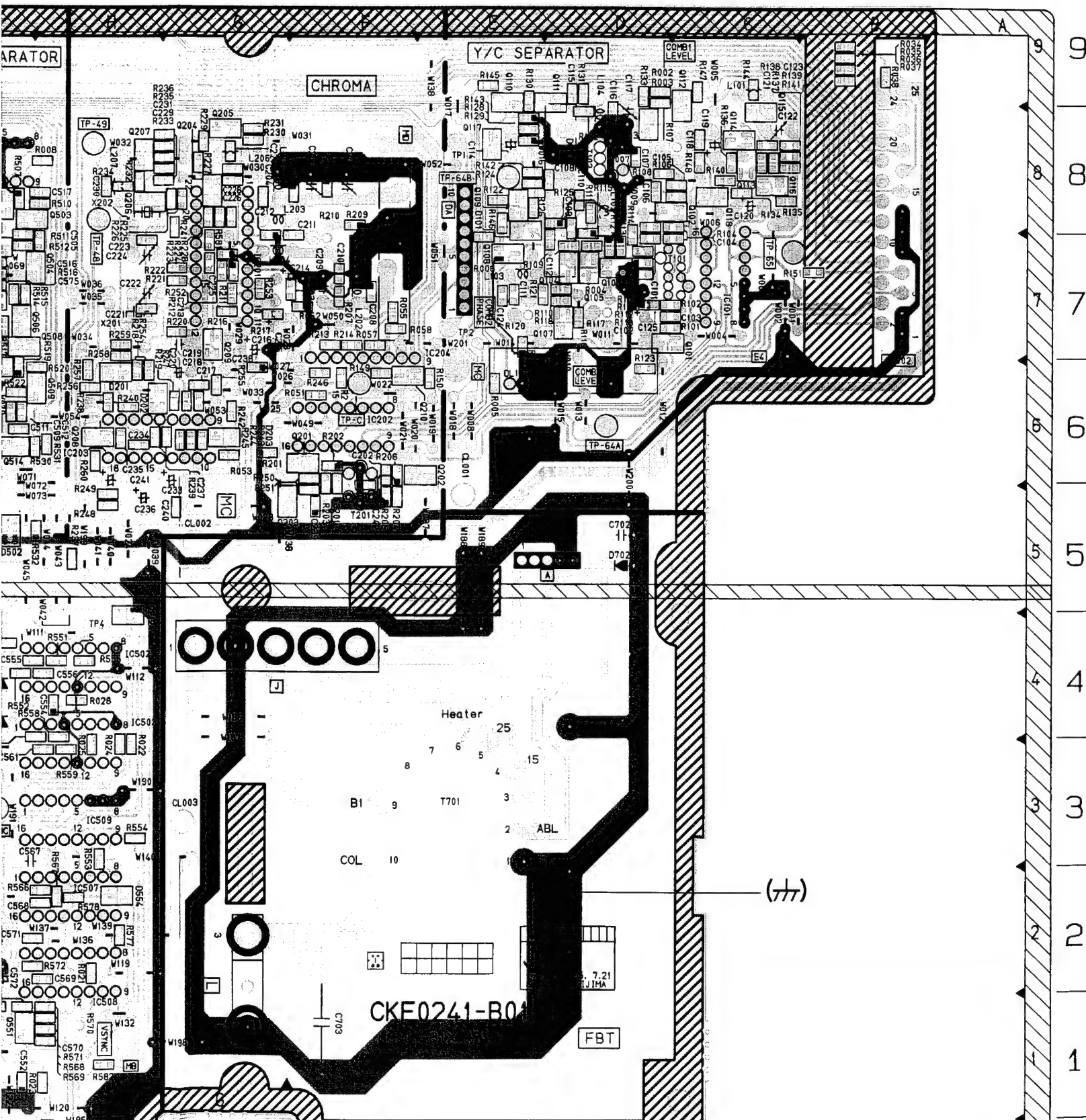


SIGNAL PWB PATTERN DIAGRAM (FX-1072A)



ADDRESS TABLE

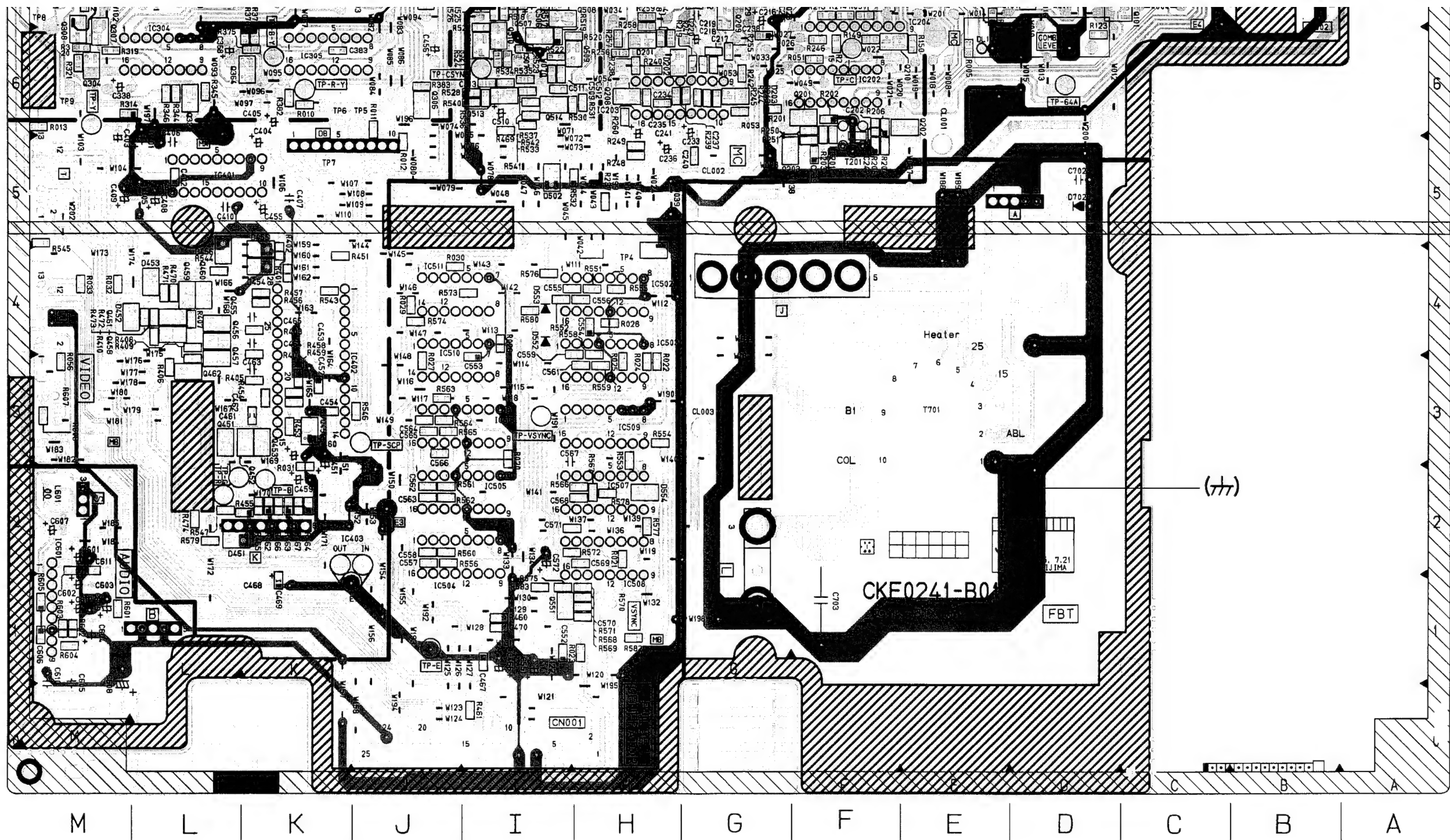
SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS
C102	D7	B	C569	H2
C103	D7	B	C570	H1
C104	C8	B	C571	I2
C105	C8	B	C575	I7
C106	D8	B	C602	N2
C107	D8	B	C606	N1
C108	D8	B	C611	N2
C109	D8	B	D101	E8
C110	D8	B	D201	H6
C111	E7	B	D202	H6
C112	D7	B	D203	G6
C113	D7	B	D451	L2
C115	D9	B	D452	N4
C116	D9	B	D453	L4
C118	C8	B	D454	K4
C121	C8	B	D455	K5
C123	C8	B	D456	L5
C124	E7	B	D501	I7
C125	D7	B	D502	I5
C201	F6	B	D554	H2
C202	F6	B	Q101	D7
C203	F7	B	Q102	D8
C204	G8	B	Q103	D8
C205	F8	B	Q104	D7
C208	F7	B	Q105	D7
C210	F7	B	Q106	D7
C211	F8	B	Q107	D7
C212	G8	B	Q108	E7
C213	G7	B	Q109	E8
C217	G6	B	Q110	E9
C220	G6	B	Q111	D9
C221	H7	B	Q112	C9
C223	H7	B	Q113	C8
C225	G7	B	Q114	C8
C226	G8	B	Q115	C9
C227	G8	B	Q116	C8
C228	G8	B	Q117	E8
C229	G8	B	Q118	C8
C230	H8	B	Q201	F6
C231	G8	B	Q202	E6
C234	H6	B	Q203	G5
C235	H6	B	Q204	G8
C237	G6	B	Q205	G8
C238	G6	B	Q206	H8
C239	F5	B	Q207	H8
C240	G5	B	Q208	H6
C242	F6	B	Q209	G7
C309	L8	B	Q210	F6
C382	J7	B	Q212	H5
C383	K6	B	Q301	L8
C402	L5	B	Q302	N8
C452	K3	B	Q303	N8
C453	K3	B	Q304	N6
C454	K3	B	Q305	L8
C462	K3	B	Q306	J6
C467	I1	B	Q307	N7
C469	K2	B	Q308	N7
C470	I1	B	Q331	K8
C502	I7	B	Q332	L8
C505	H7	B	Q333	L8
C508	I8	B	Q334	L6
C509	I6	B	Q361	J8
C511	I6	B	Q362	K8
C512	I6	B	Q363	K8
C513	I6	B	Q364	K6
C514	I8	B	Q451	L3
C516	I7	B	Q452	K3
C517	H8	B	Q453	K3
C552	I1	B	Q454	K3
C553	I4	B	Q455	L4
C554	H4	B	Q456	L4
C555	I4	B	Q457	L4
C556	H4	B	Q458	L4
C557	J2	B	Q459	L4
C558	J2	B	Q460	L4
C559	H4	B	Q461	L4
C561	H3	B	Q462	L3
C562	J2	B	Q501	I7
C563	J2	B	Q502	I8



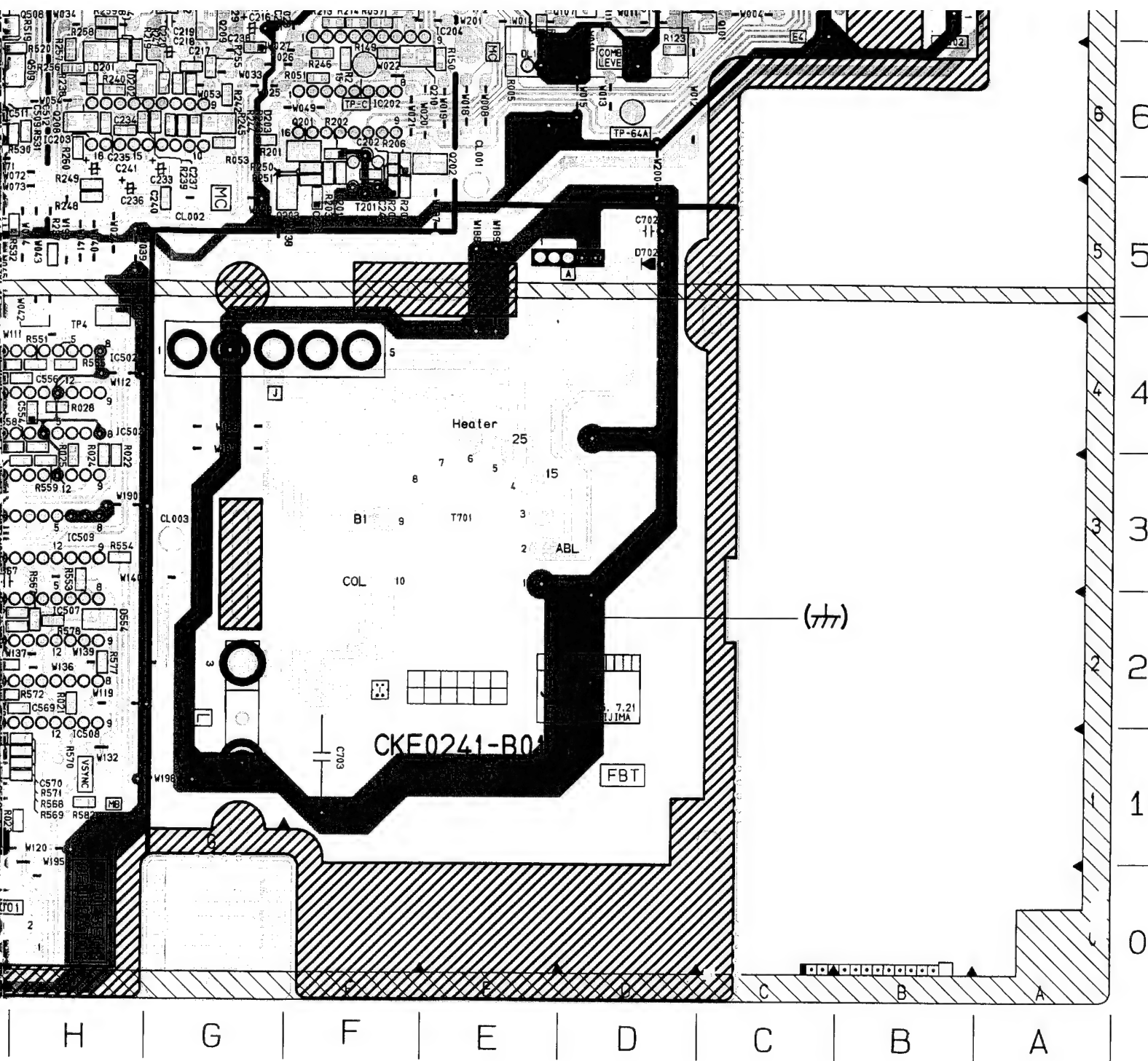
ADDRESS TABLE

SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE	SYMBOL No.	ADDRESS	SIDE
C102	D7	B	C569	H2	B	Q507	16	B	R140	C8	B	R313	L7	B	R507	18	B
C103	D7	B	C570	H1	B	Q508	17	B	R141	C8	B	R314	M6	B	R508	17	B
C104	C8	B	C571	I2	B	Q509	H6	B	R142	E8	B	R315	K8	B	R509	17	B
C105	C8	B	C575	17	B	Q510	16	B	R143	E8	B	R316	L8	B	R510	H8	B
C106	D8	B	C602	N2	B	Q511	16	B	R144	C9	B	R317	L8	B	R511	18	B
C107	D8	B	C606	N1	B	Q512	J7	B	R145	E9	B	R318	L8	B	R512	17	B
C108	D8	B	C611	N2	B	Q513	16	B	R146	E8	B	R319	M6	B	R513	17	B
C109	D8	B	D101	E8	B	Q514	16	B	R147	C9	B	R320	M6	B	R514	17	B
C110	D8	B	D201	H6	B	Q515	18	B	R148	C8	B	R321	M6	B	R515	17	B
C111	E7	B	D202	H6	B	Q551	11	B	R149	F6	B	R322	N7	B	R516	17	B
C112	D7	B	D203	G6	B	R002	D9	B	R150	E6	B	R331	K8	B	R517	17	B
C113	D7	B	D451	L2	B	R003	D9	B	R151	B7	B	R332	K8	B	R518	17	B
C115	D9	B	D452	M4	B	R004	D7	B	R201	G6	B	R333	K8	B	R519	16	B
C116	D9	B	D453	L4	B	R005	E6	B	R202	F6	B	R334	K8	B	R520	H6	B
C118	C8	B	D454	K4	B	R006	E8	B	R203	F6	B	R335	L8	B	R521	16	B
C121	C8	B	D455	K5	B	R008	H8	B	R204	F5	B	R336	L8	B	R522	16	B
C123	C8	B	D456	L5	B	R010	K6	B	R205	F5	B	R337	L8	B	R523	16	B
C124	E7	B	D501	17	B	R011	J6	B	R206	F6	B	R338	L8	B	R524	16	B
C125	D7	B	D502	15	B	R012	J6	B	R207	F7	B	R339	L7	B	R525	17	B
C201	F6	B	D554	H2	B	R013	M6	B	R208	F8	B	R340	K8	B	R526	17	B
C202	F6	B	Q101	D7	B	R015	J8	B	R209	F8	B	R341	K7	B	R527	17	B
C203	F7	B	Q102	D8	B	R020	13	B	R211	G7	B	R342	L7	B	R528	16	B
C204	G8	B	Q103	D8	B	R021	H2	B	R212	G7	B	R343	K7	B	R529	J7	B
C205	F8	B	Q104	D7	B	R022	H4	B	R213	F7	B	R344	L6	B	R530	16	B
C208	F7	B	Q105	D7	B	R023	H1	B	R214	F7	B	R345	L6	B	R531	H6	B
C210	F7	B	Q106	D7	B	R024	H4	B	R215	F6	B	R346	L6	B	R532	H5	B
C211	F8	B	Q107	D7	B	R025	H4	B	R216	G7	B	R361	J8	B	R533	16	B
C212	G8	B	Q108	E7	B	R026	14	B	R217	G7	B	R362	J8	B	R534	16	B
C213	G7	B	Q109	E8	B	R027	J4	B	R218	H6	B	R363	K8	B	R535	16	B
C217	G6	B	Q110	E9	B	R028	H4	B	R219	G6	B	R364	J8	B	R536	16	B
C220	G6	B	Q111	D9	B	R029	J4	B	R220	G7	B	R365	K8	B	R537	16	B
C221	H7	B	Q112	C9	B	R030	J4	B	R221	G7	B	R366	K8	B	R538	18	B
C223	H7	B	Q113	C8	B	R031	K3	B	R222	G7	B	R367	K8	B	R539	18	B
C225	G7	B	Q114	C8	B	R032	M4	B	R223	G8	B	R368	K8	B	R540	16	B
C226	G8	B	Q115	C9	B	R033	M4	B	R224	G8	B	R369	K7	B	R541	16	B
C227	G8	B	Q116	C8	B	R034	B9	B	R225	G8	B	R370	J8	B	R542	16	B
C228	G8	B	Q117	E8	B	R035	B9	B	R226	G8	B	R371	J7	B	R543	K4	B
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C230	H8	B	Q201	F6	B	R037	B9	B	R228	G8	B	R373	J7	B	R545	M5	B
C231	G8	B	Q202	E6	B	R038	B9	B	R229	G8	B	R374	K6	B	R546	J3	B
C234	H6	B	Q203	G5	B	R051	F6	B	R230	G8	B	R375	K6	B	R547	L2	B
C235	H6	B	Q204	G8	B	R052	F7	B	R231	G8	B	R376	K6	B	R548	17	B
C237	G6	B	Q205	G8	B	R053	G6	B	R232	H8	B	R381	K7	B	R551	H4	B
C238	G6	B	Q206	H8	B	R055	F7	B	R233	H8	B	R382	K6	B	R552	14	B
C239	F5	B	Q207	H8	B	R056	M3	B	R234	H8	B	R383	J6	B	R553	H3	B
C240	G5	B	Q208	H6	B	R057	F7	B	R235	G8	B	R401	K4	B	R554	H3	B
C242	F6	B	Q209	G7	B	R058	F7	B	R236	G8	B	R402	K5	B	R555	H4	B
C309	L8	B	Q210	F6	B	R101	D7	B	R237	H5	B	R403	K4	B	R556	J2	B
C382	J7	B	Q212	H5	B	R102	D7	B	R238	H6	B	R404	K4	B	R558	H4	B
C383	K6	B	Q301	L8	B	R103	D8	B	R239	H6	B	R405	K3	B	R559	H3	B
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C452	K3	B	Q303	M8	B	R105	D8	B	R241	G8	B	R407	L4	B	R561	J2	B
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C469	K2	B	Q308	M7	B	R111	D8	B	R246	F6	B	R453	K3	B	R566	H2	B
C470	11	B	Q331	K8	B	R112	D7	B	R247	G6	B	R454	K3	B	R567	H2	B
C502	17	B	Q332	L8	B	R113	D7	B	R248	H5	B	R455	K2	B	R568	H1	B
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C557	J2	B	Q459	L4	B	R130	E9	B	R303	L8	B	R471	L4	B	R601	M1	B
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C562	J2	B	Q501	17	B	R134	C8	B	R307	M8	B	R501	18	B	R605	M1	B
C563	J2	B	Q502	18	B	R135	C8	B	R308	M8	B	R502	18	B	R606	M3	B
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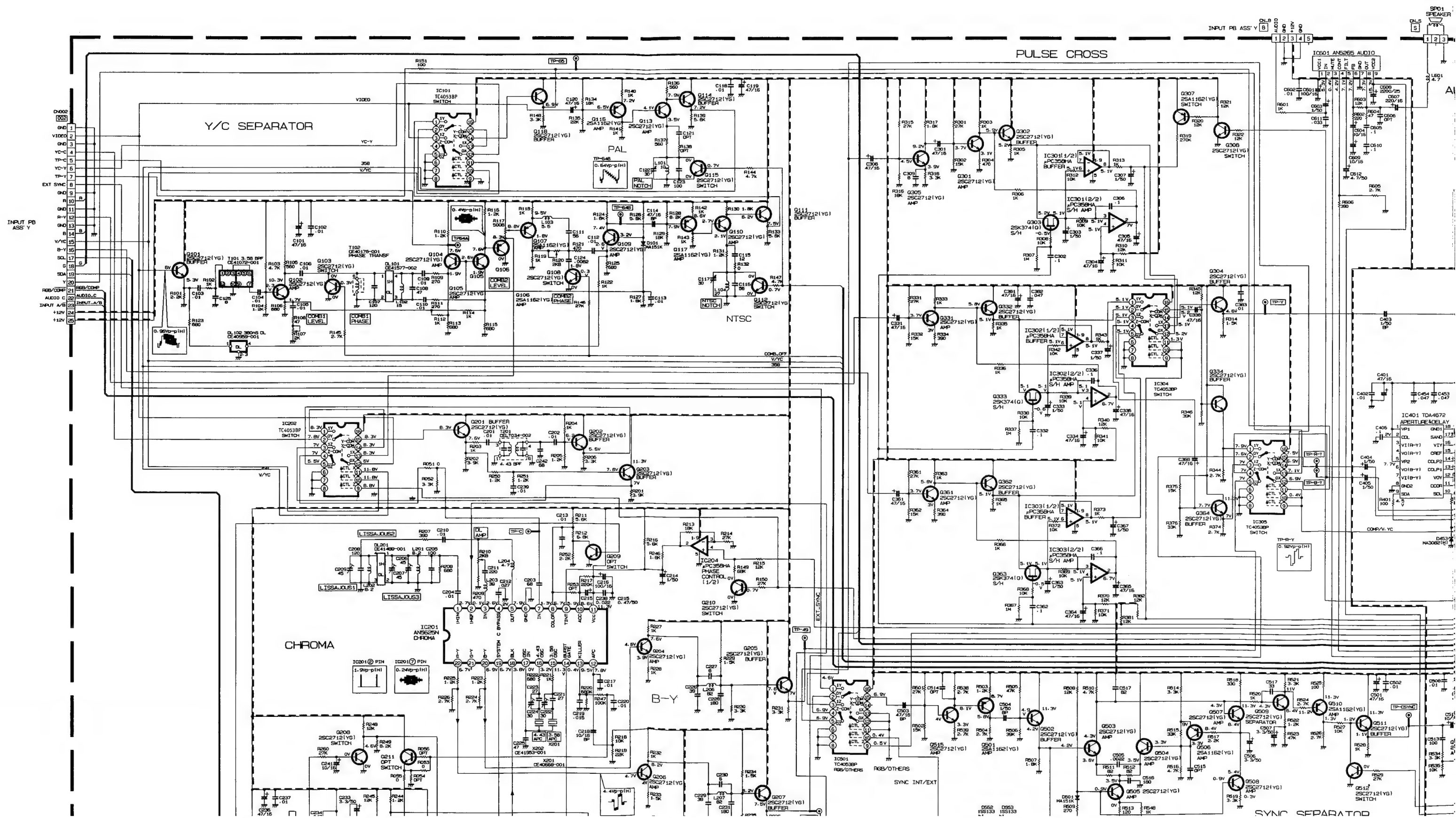
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C221	H7	B	Q112	C9
C223	H7	B	Q113	C8
C225	G7	B	Q114	C8
C226	G8	B	Q115	C9
C227	G8	B	Q116	C8
C228	G8	B	Q117	E8
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C230	H8	B	Q201	F6
C231	G8	B	Q202	E6
C234	H6	B	Q203	G5
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C238	G6	B	Q206	H8
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C240	G5	B	Q208	H6
C242	F6	B	Q209	G7
C309	L8	B	Q210	F6
C382	J7	B	Q212	H5
C383	K6	B	Q301	L8
C402	L5	B	Q302	M8
C452	K3	B	Q303	M8
C453	K3	B	Q304	M6
C454	K3	B	Q305	L8
C462	K3	B	Q306	J6
C467	I1	B	Q307	M7
C469	K2	B	Q308	M7
C470	I1	B	Q331	K8
C502	I7	B	Q332	L8
C505	H7	B	Q333	L8
C508	I8	B	Q334	L6
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C511	I6	B	Q362	K8
C512	I6	B	Q363	K8
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C516	I7	B	Q452	K3
C517	H8	B	Q453	K3
C552	I1	B	Q454	K3
C553	I4	B	Q455	L4
C554	H4	B	Q456	L4
C555	I4	B	Q457	L4
C556	H4	B	Q458	L4
C557	J2	B	Q459	L4
C558	J2	B	Q460	L4
C559	H4	B	Q461	L4
C561	H3	B	Q462	L3
C562	J2	B	Q501	I7
C563	J2	B	Q502	I8
C564	J3	B	Q503	I8
C565	J3	B	Q504	I7
C566	J3	B	Q505	I7
C568	H2	B	Q506	I7



C211	F8	B	Q107	D7	B	R025	H4	B	R216	G7	B	R361	J8	B	R533	16	B
C212	G8	B	Q108	E7	B	R026	I4	B	R217	G7	B	R362	J8	B	R534	16	B
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C226	G8	B	Q115	C9	B	R033	M4	B	R224	G8	B	R369	K7	B	R541	16	B
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C240	G5	B	Q208	H6	B	R057	F7	B	R235	G8	B	R401	K4	B	R554	H3	B
C242	F6	B	Q209	G7	B	R058	F7	B	R236	G8	B	R402	K5	B	R555	H4	B
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C454	K3	B	Q305	L8	B	R108	D8	B	R243	G6	B	R409	L4	B	R563	J3	B
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C467	I1	B	Q307	M7	B	R110	D7	B	R245	G6	B	R451	K4	B	R565	J3	B
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C514	I8	B	Q451	L3	B	R122	E8	B	R255	G6	B	R462	K2	B	R576	I4	B
C516	I7	B	Q452	K3	B	R123	D6	B	R256	H6	B	R463	K2	B	R577	H2	B
C517	H8	B	Q453	K3	B	R124	E8	B	R257	H6	B	R464	K2	B	R578	H2	B
C562	I1	B	Q454	K3	B	R125	D8	B	R258	H7	B	R465	K2	B	R579	L2	B
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C556	H4	B	Q458	L4	B	R129	E8	B	R302	L8	B	R470	L4	B	R583	I1	B
C557	J2	B	Q459	L4	B	R130	E9	B	R303	L8	B	R471	L4	B	R601	M1	B
C558	J2	B	Q460	L4	B	R131	D9	B	R304	L8	B	R472	L4	B	R602	M1	B
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C563	J2	B	Q502	I8	B	R135	C8	B	R308	M8	B	R502	I8	B	R606	M3	B
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C566	J3	B	Q505	I7	B	R138	C8	B	R311	L7	B	R505	I8	B			
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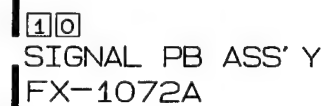
※This table shows only chip components

### SIGNAL PWB CIRCUIT DIAGRAM

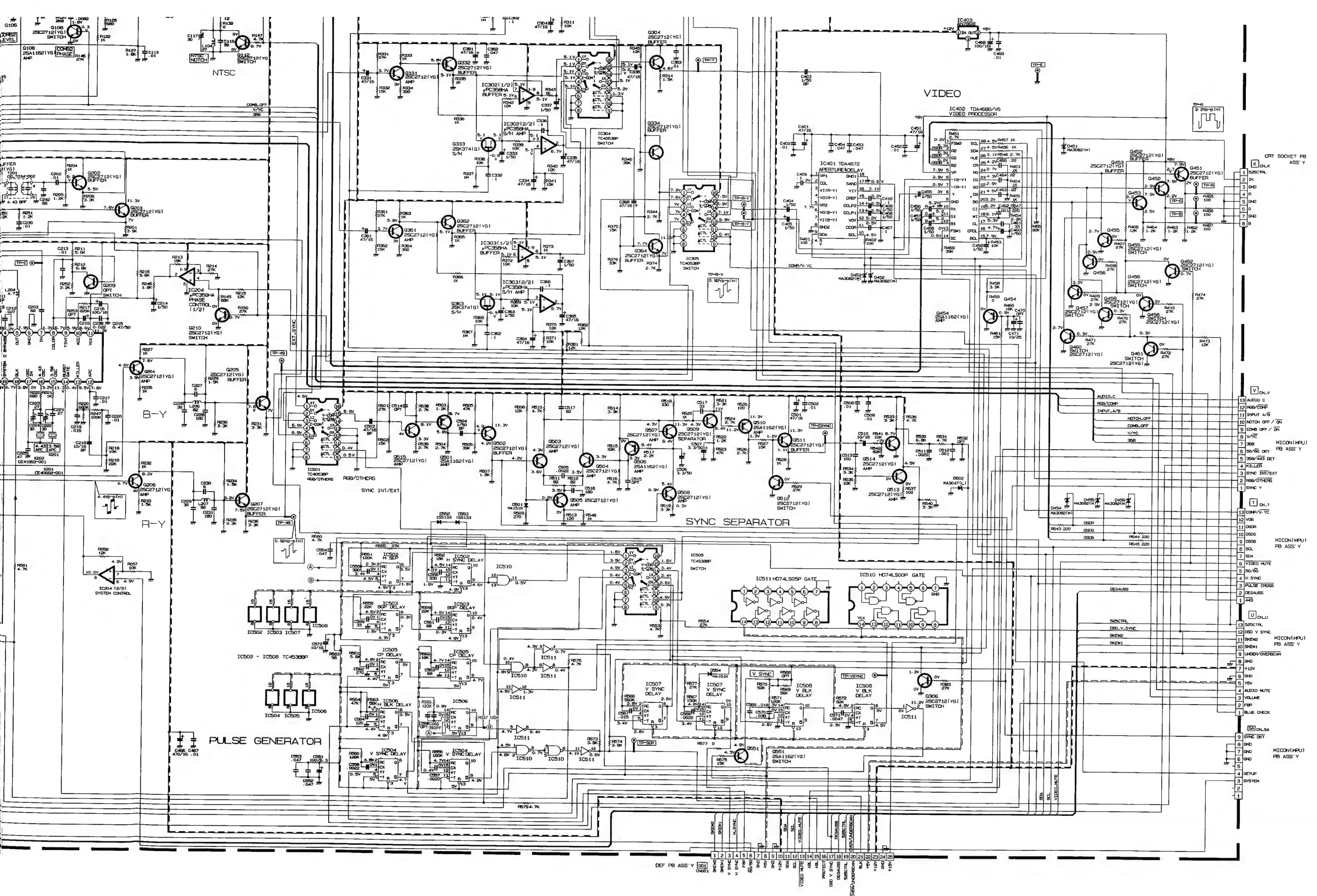






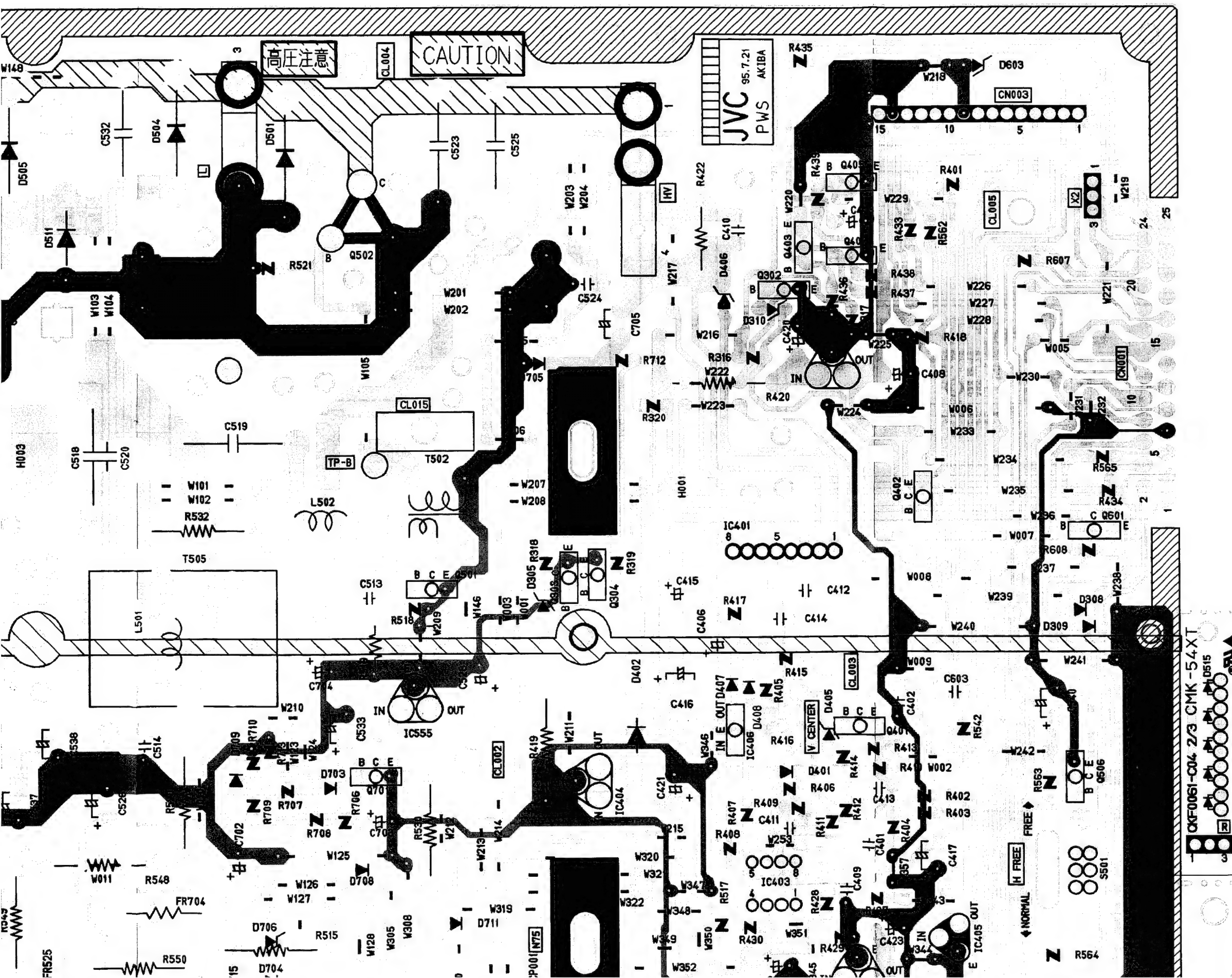


1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
DEF	PB	ASS	Y	001	0001	SGEN2	SGEN1	V SYNC	H SYNC	FBP	50/60	ND	+5V	ND	+12V	SOA
												71080 MUTE	ABL	ABL	PROTECT	SSD V SYNC



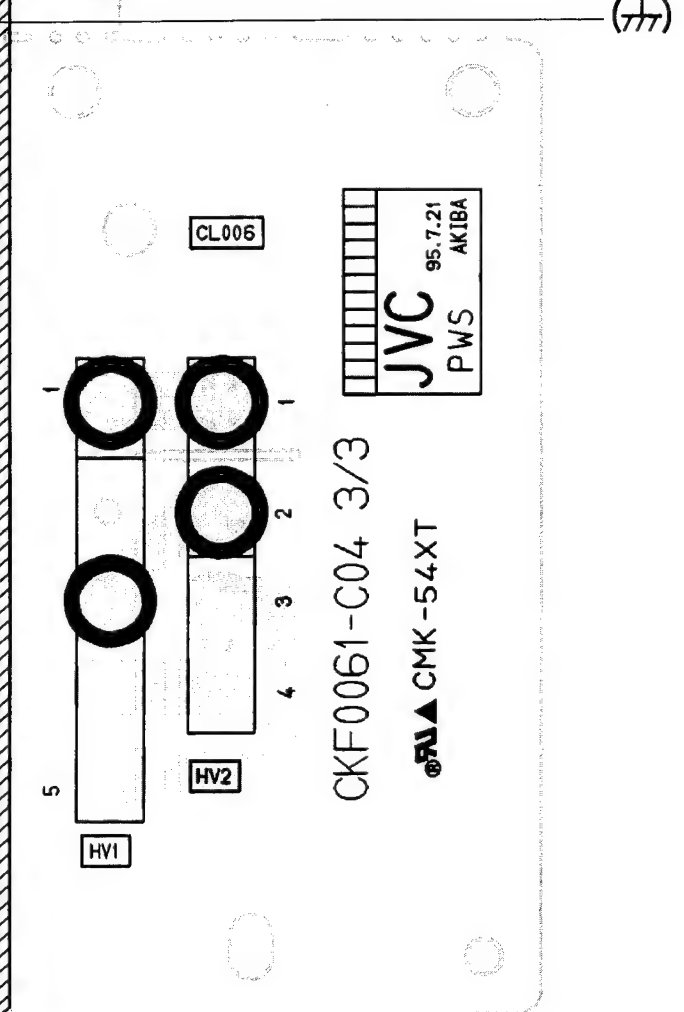






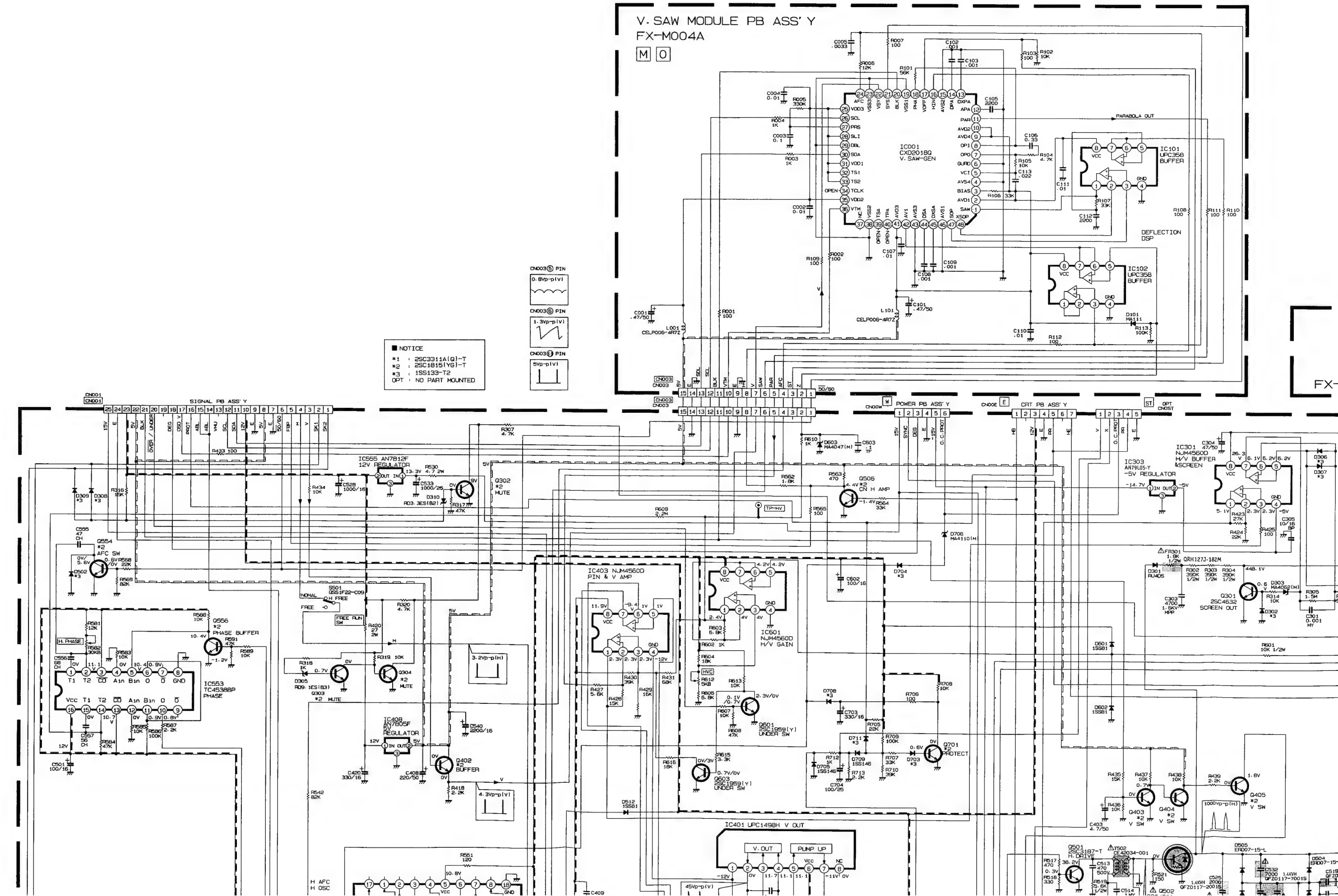








# DEFLECTION PWB CIRCUIT DIAGRAM

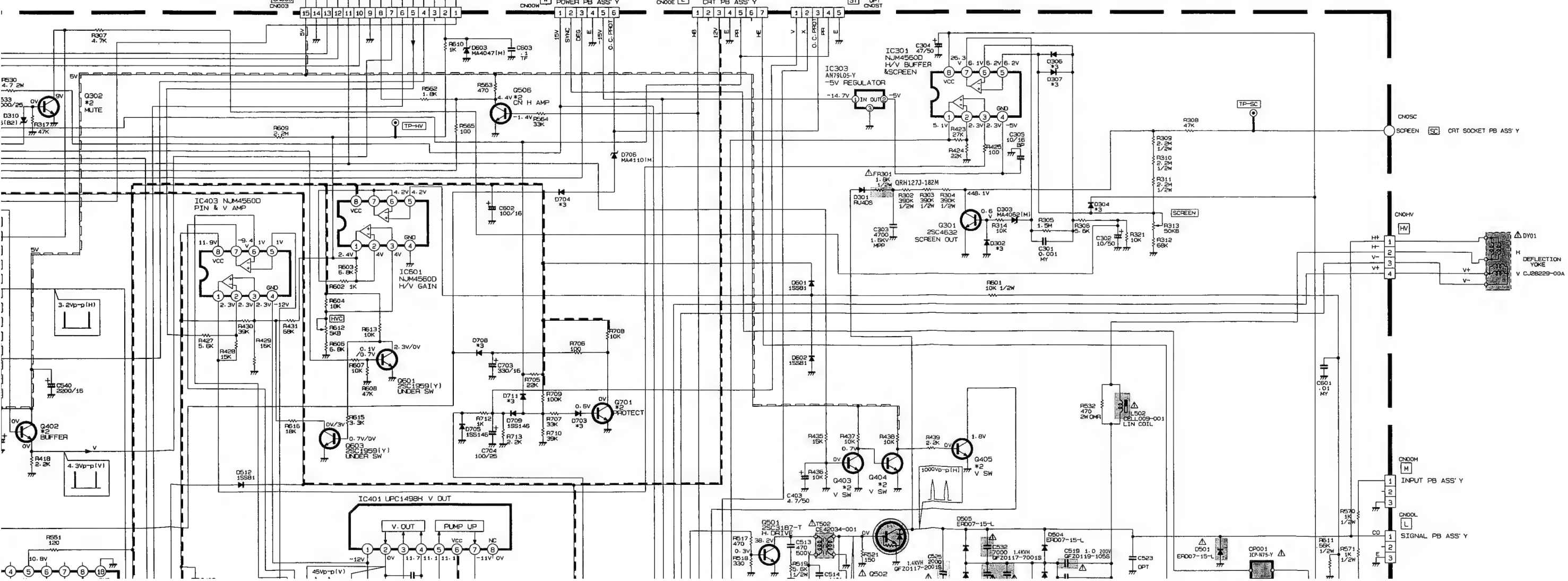
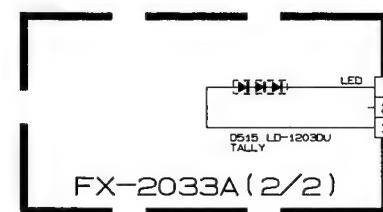
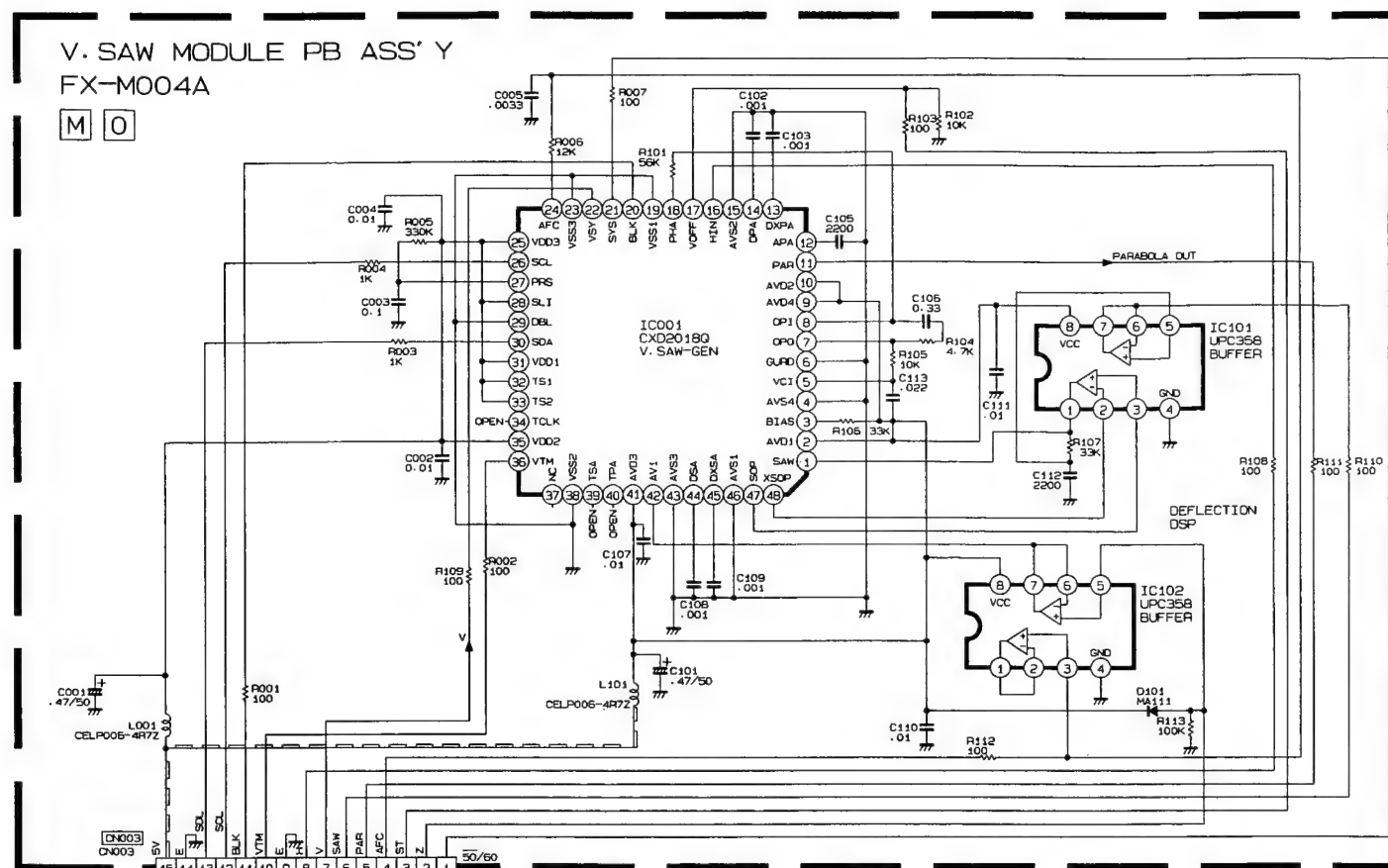


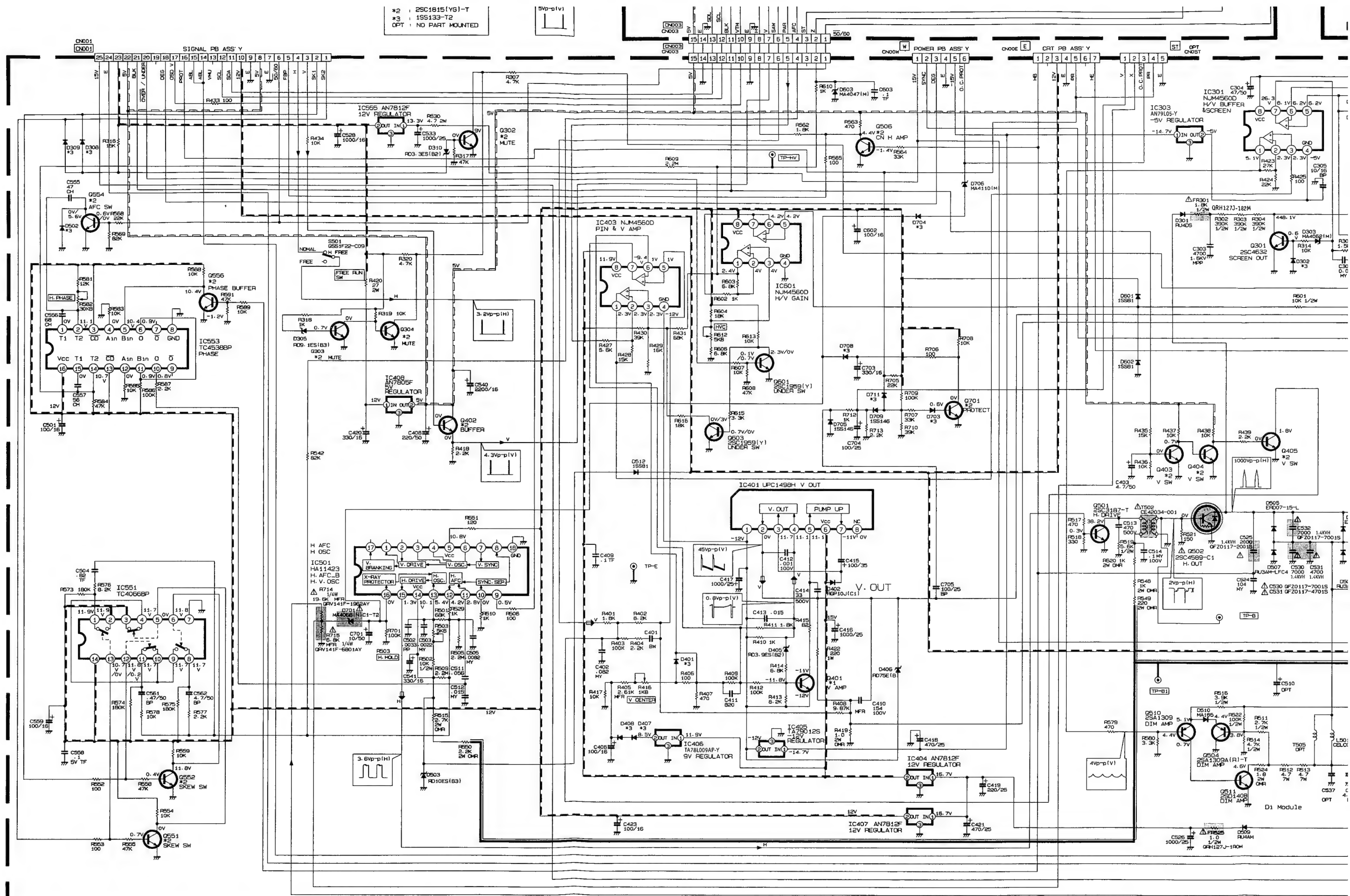
# V. SAW MODULE PB ASS' Y FX-M004A

M O

3311A(Q)-T  
1815(YG)-T  
133-T2  
PART MOUNTED

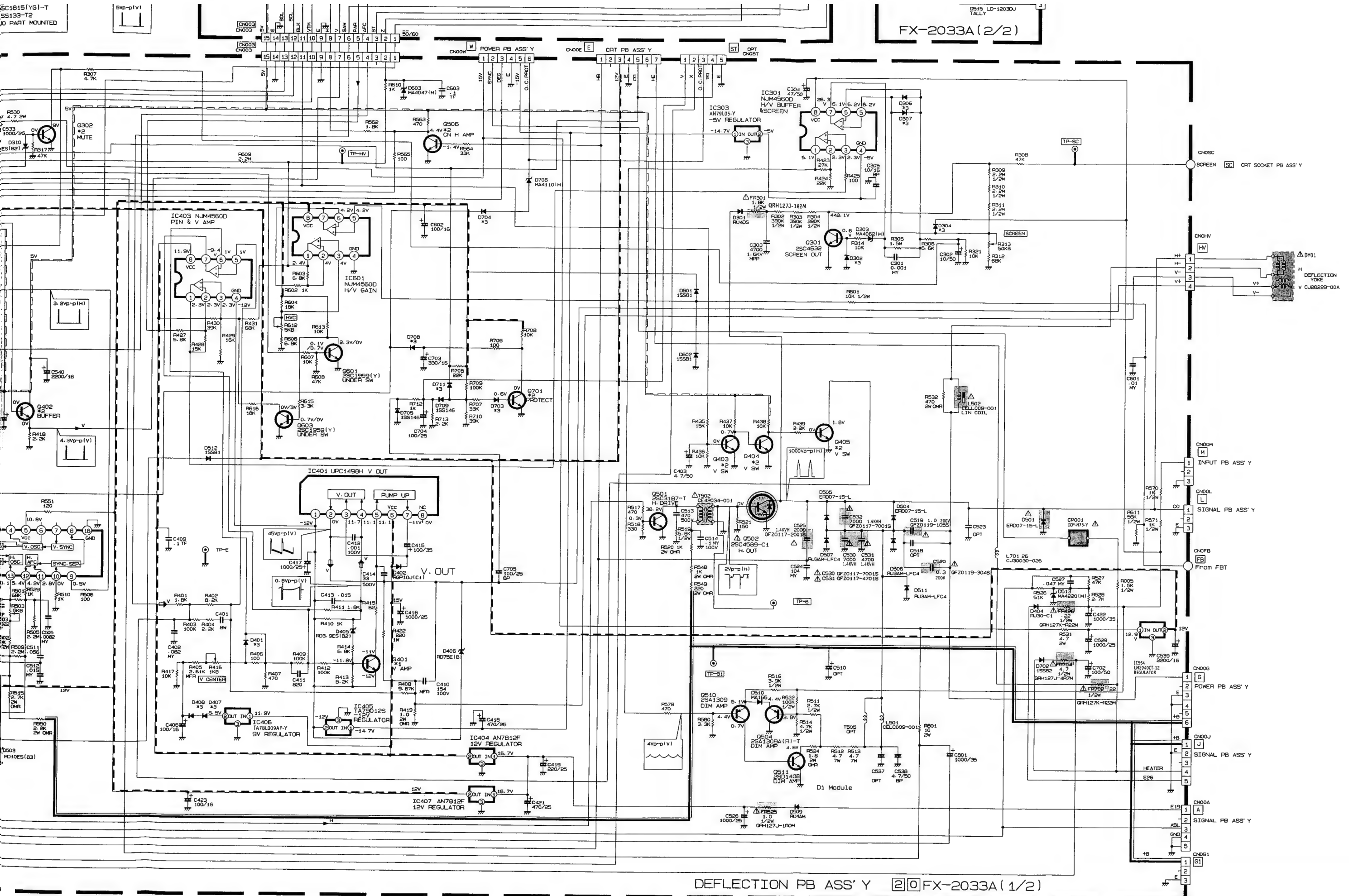
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0.8Vp-p(V)  
CH003⑥ PIN  
1.3Vp-p(V)  
CH003④ PIN  
5Vp-p(V)





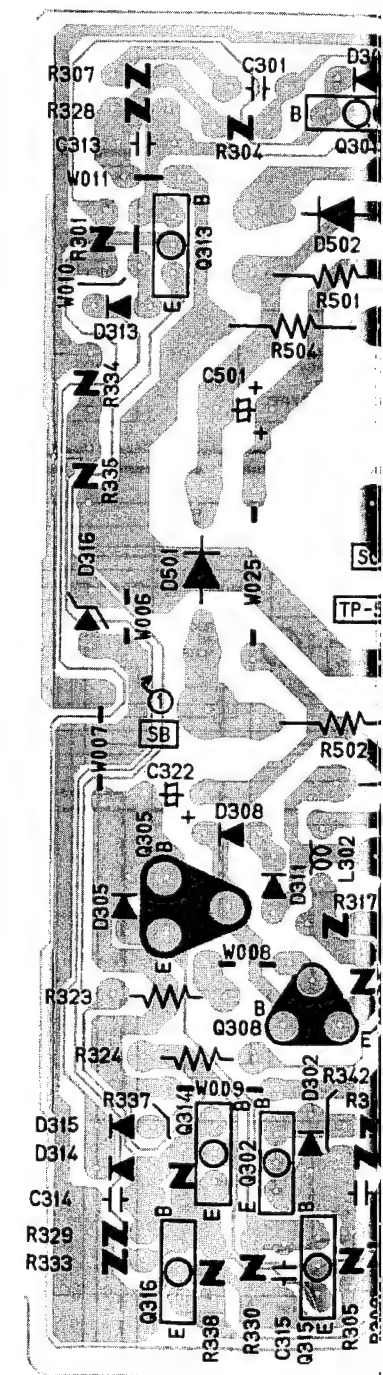
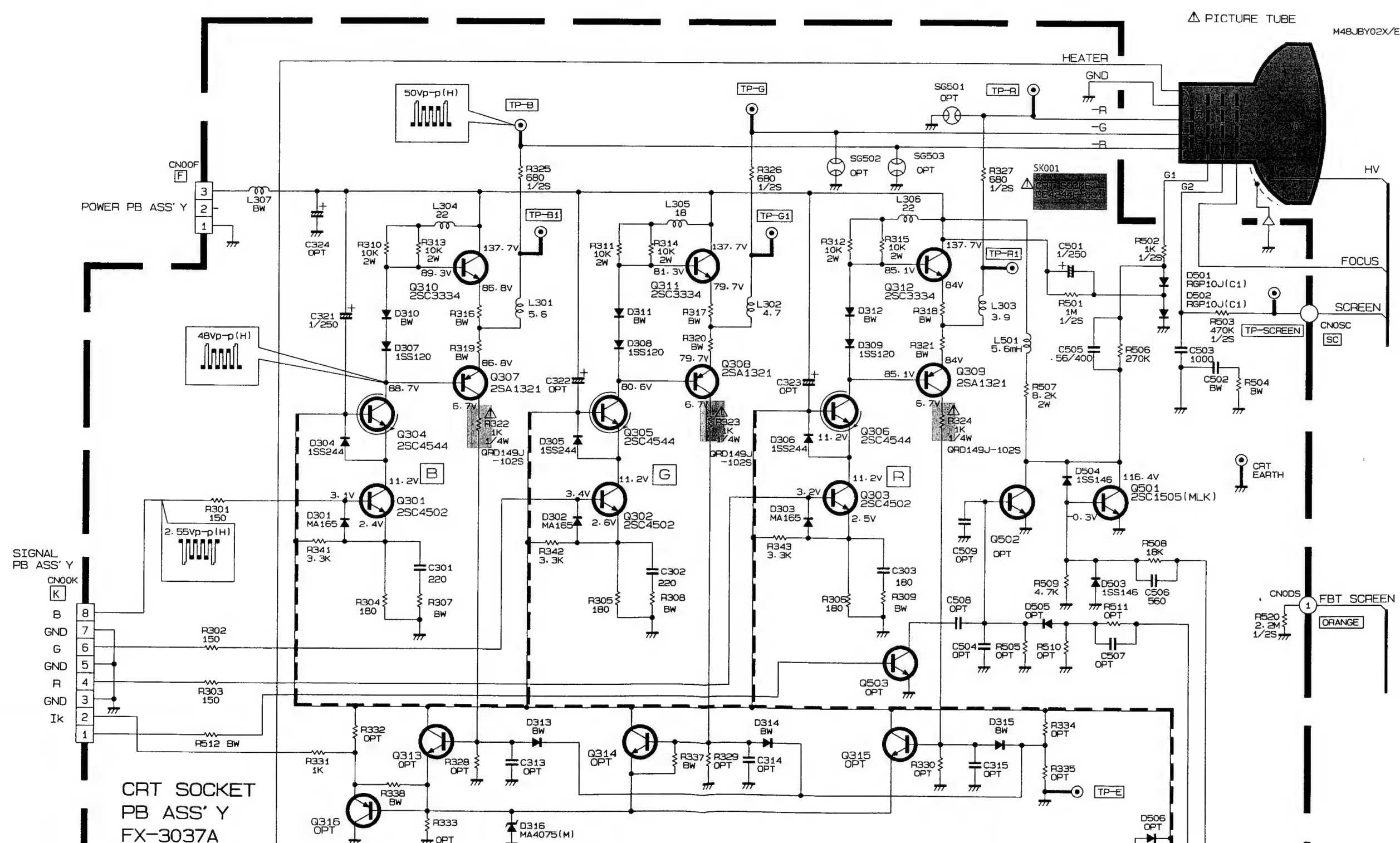
DEFLECTION PB ASS' Y



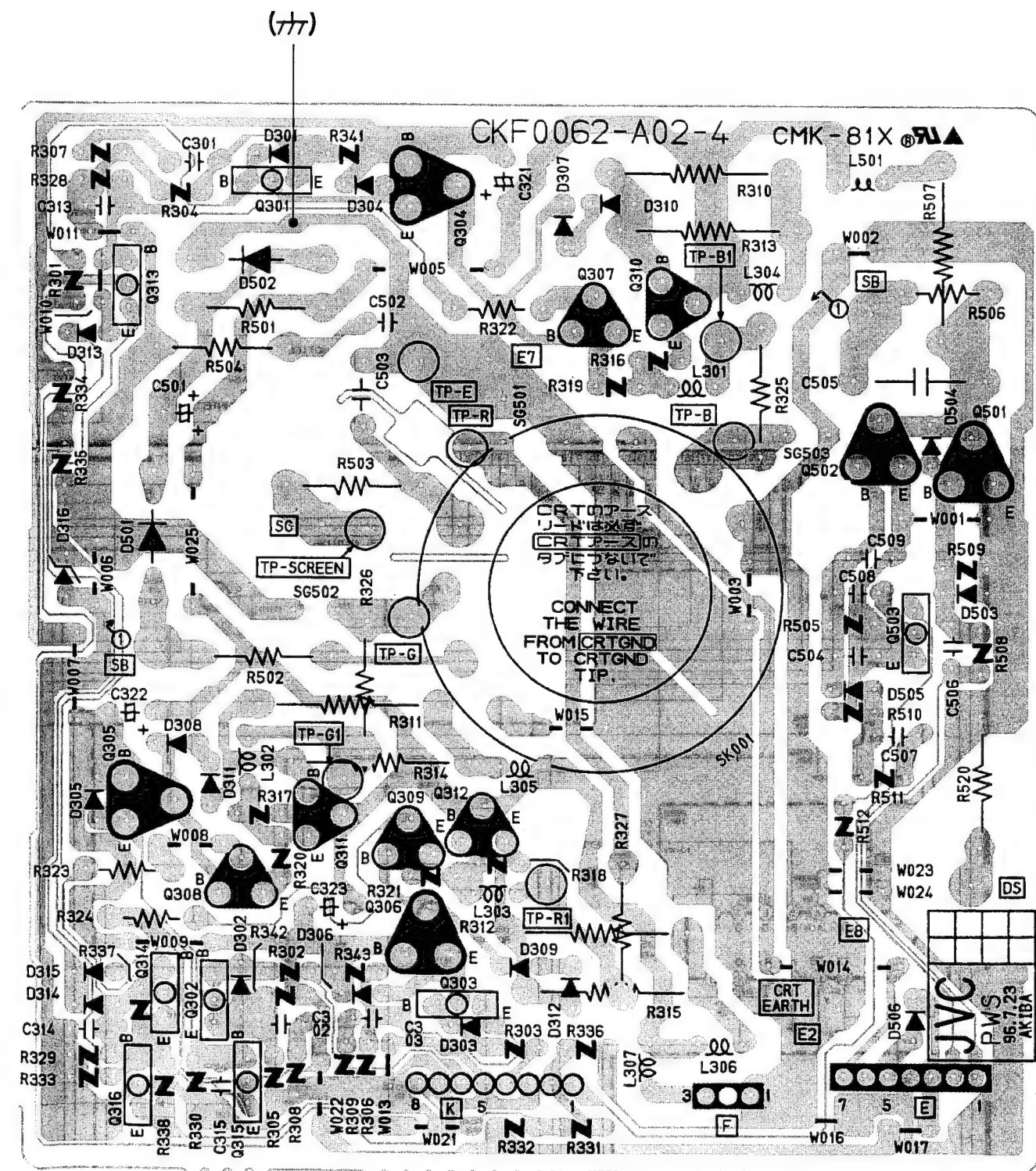
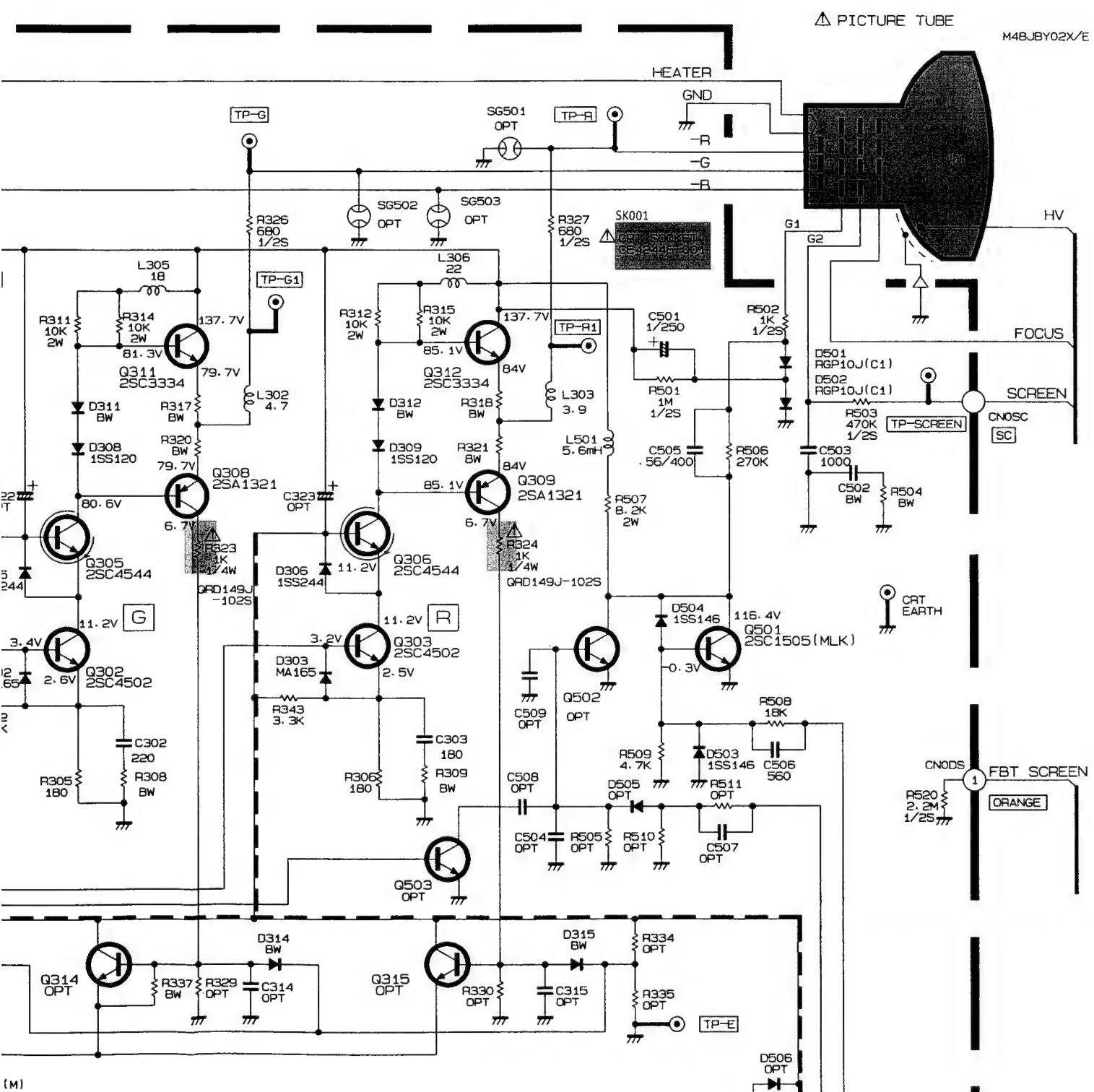


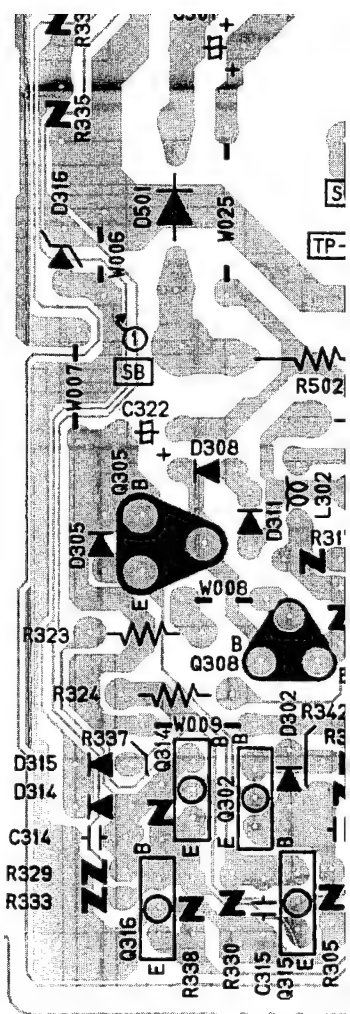
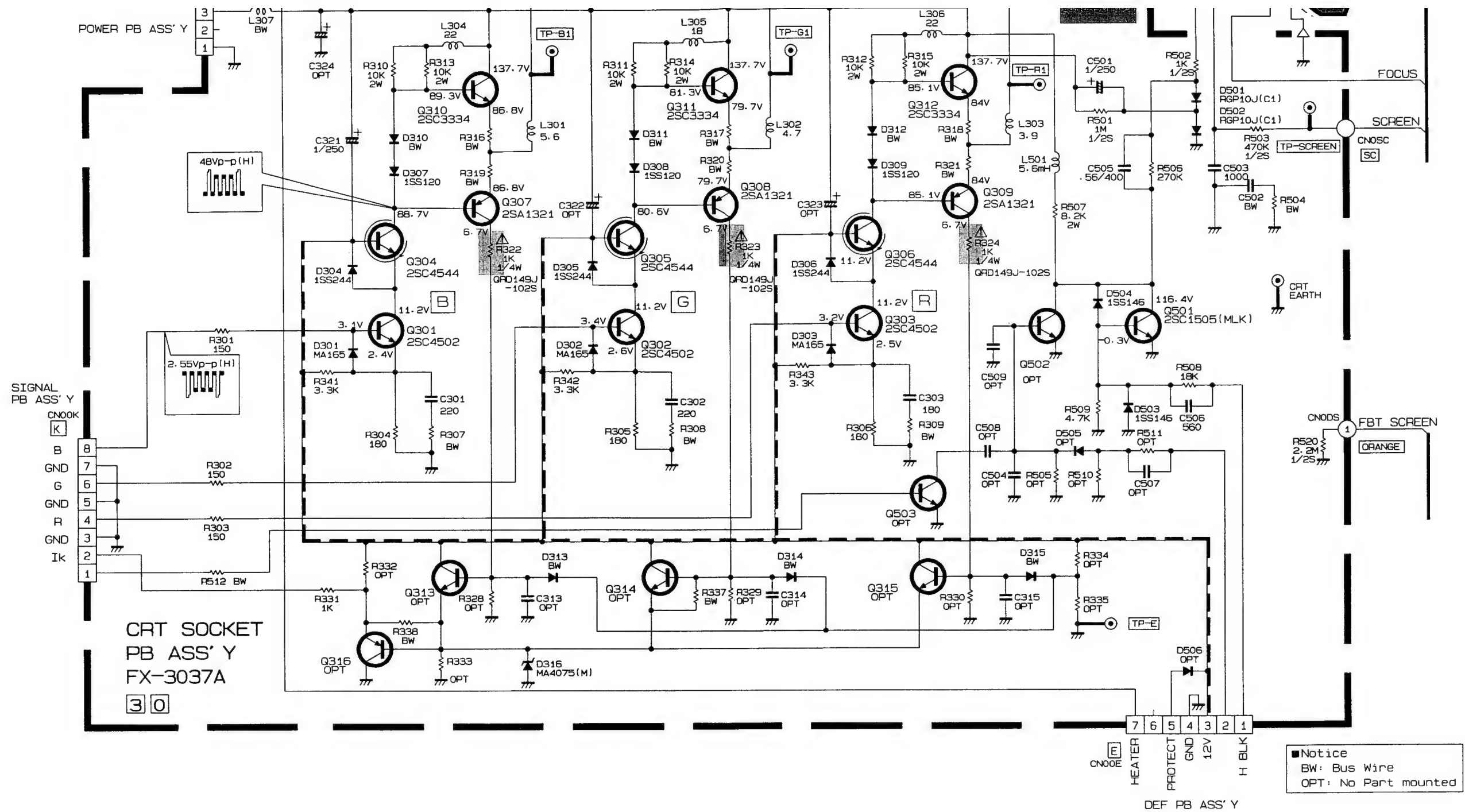


CRT SOCKET CIRCUIT DIAGRAM / PATTERN DIAGRAM (FX-3037A)

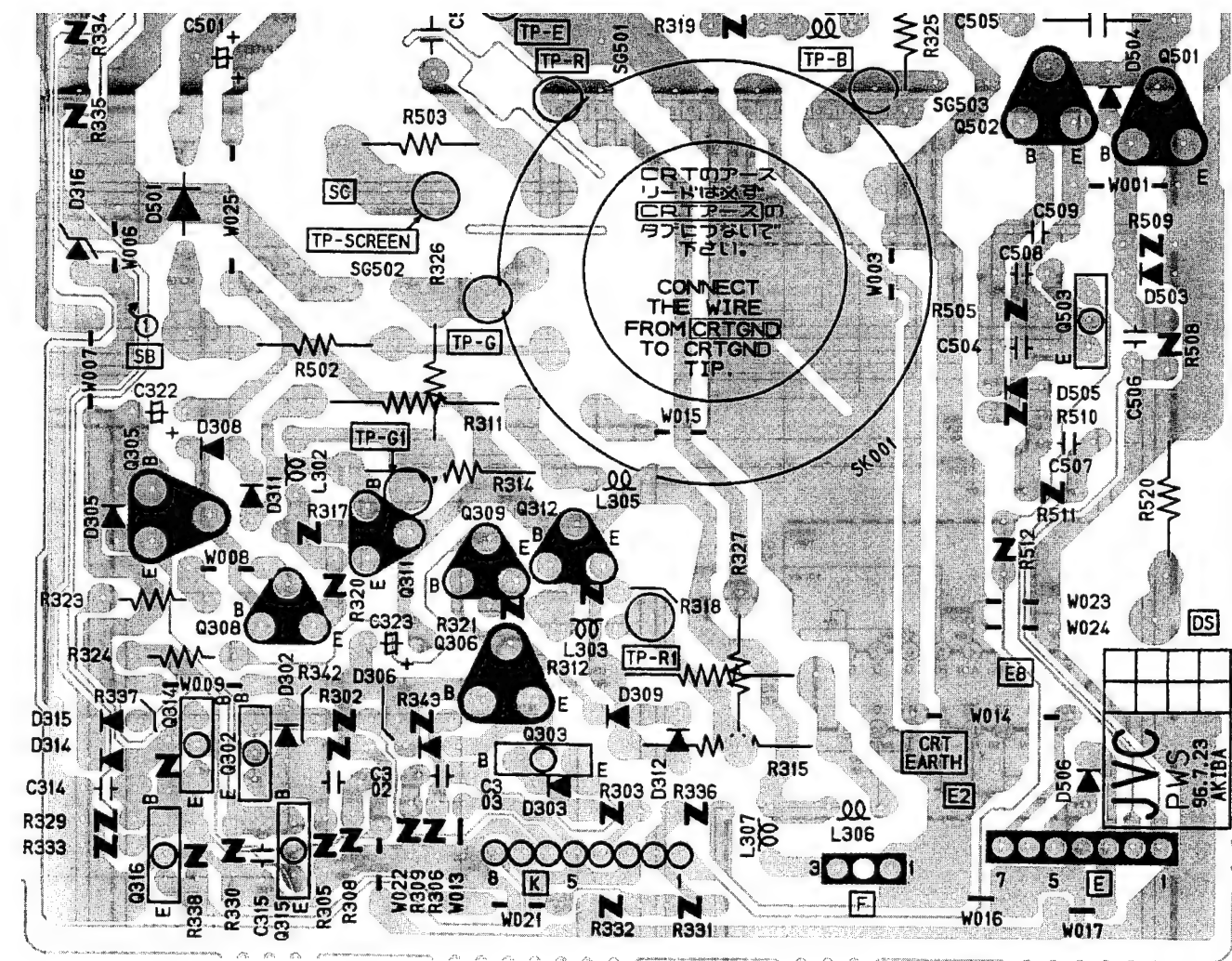
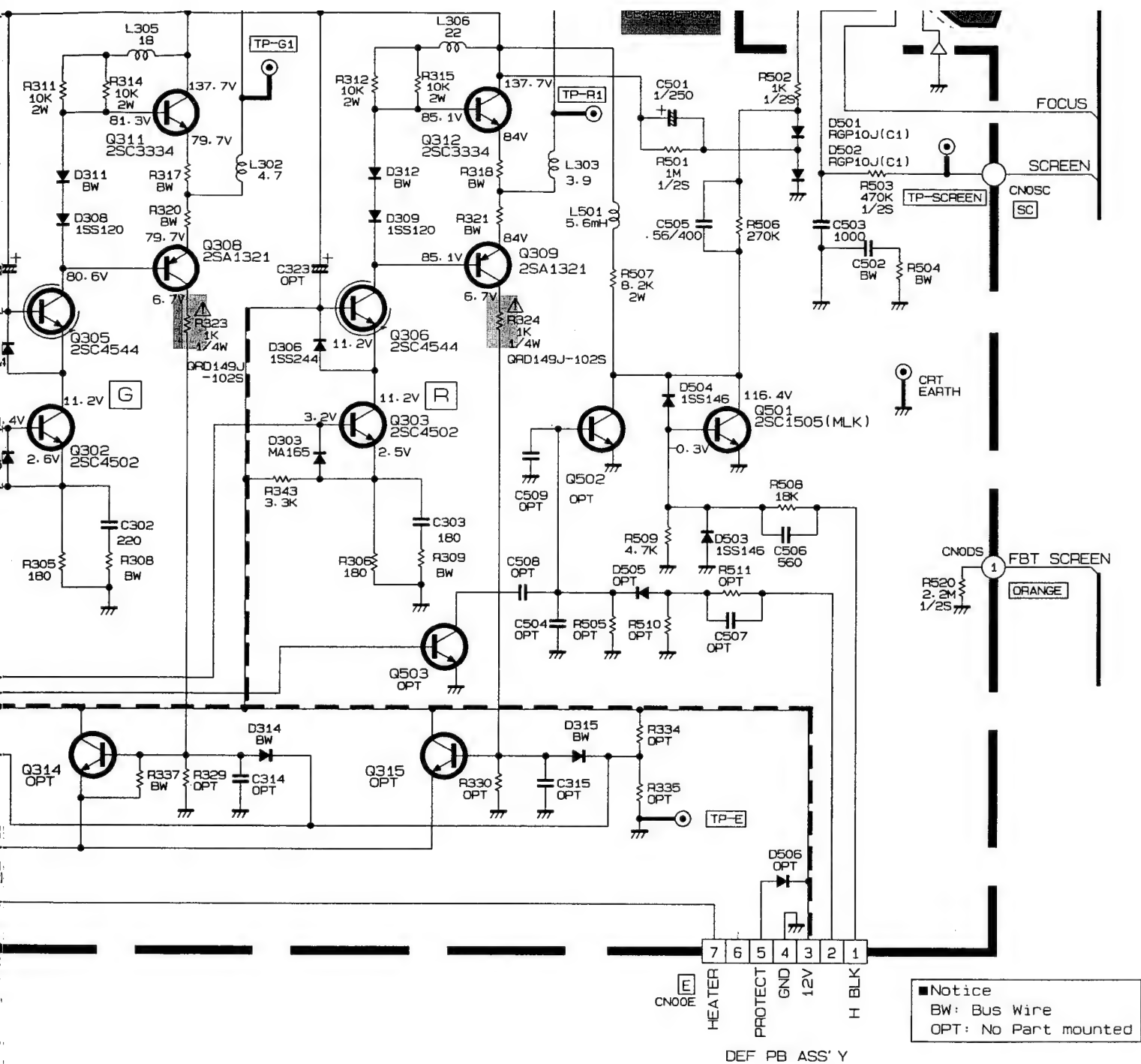


037A)

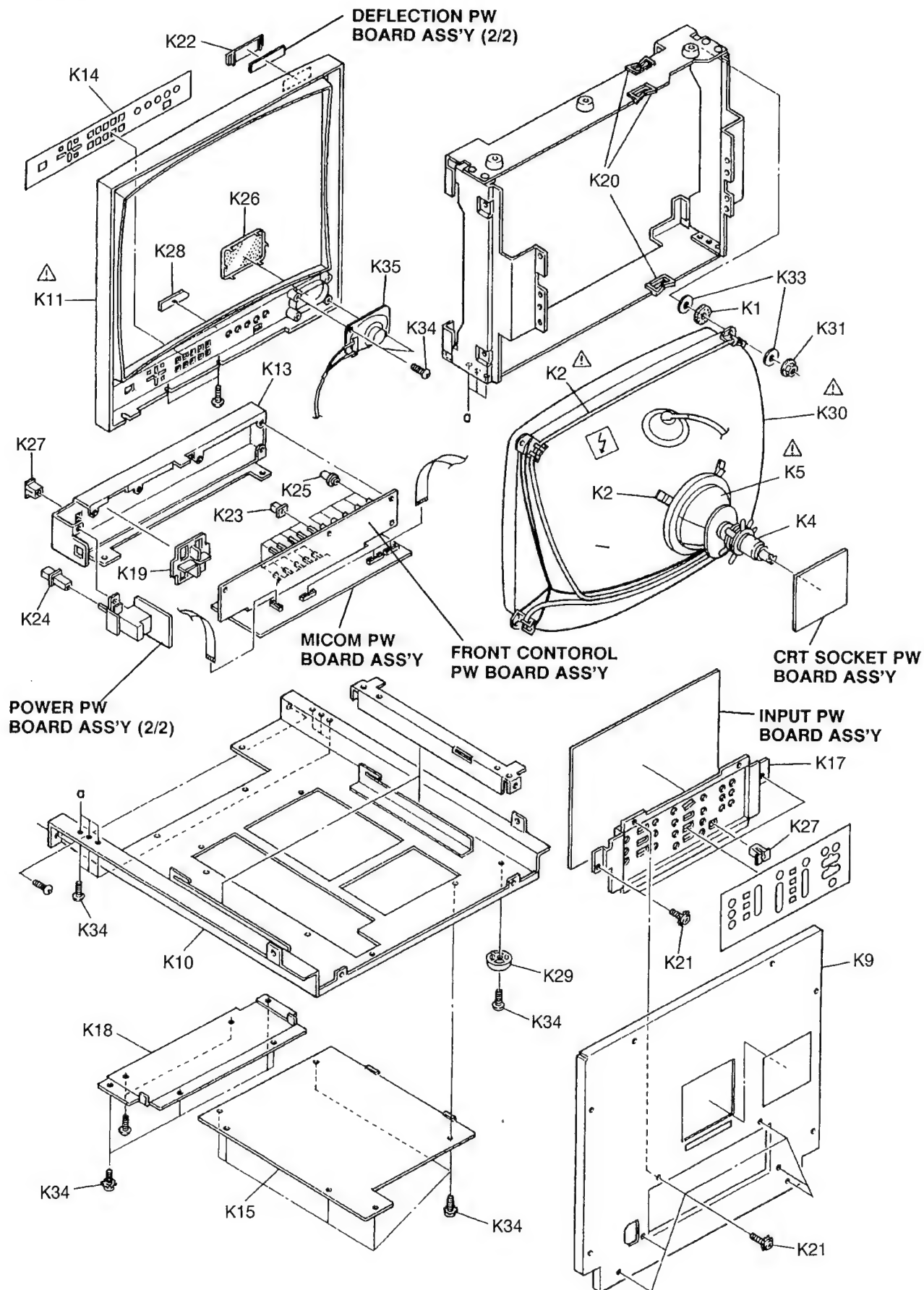


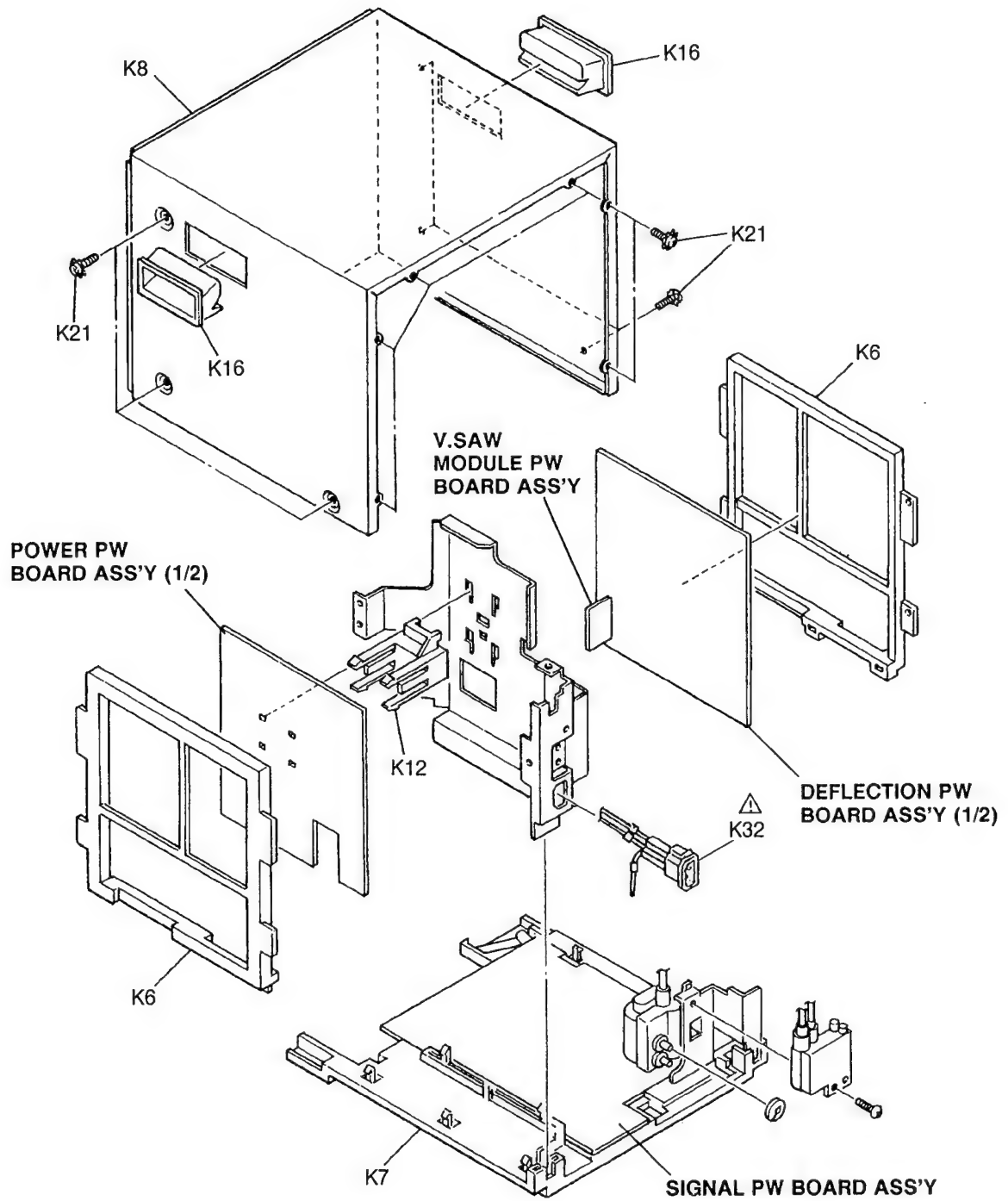






## EXPLODED VIEW





# REPLACEMENT PARTS LIST

## Important Safety Notice

Components identified by the International symbol  $\Delta$  have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

### Abbreviation of Part Name and Description

#### 1. Resistor

Example:

**C** 100KOHM, **J**, 1/4W

TYPE ALLOWANCE

TYPE	ALLOWANCE
C : Carbon	F : $\pm 1\%$
F : Fuse	G : $\pm 2\%$
M : Metal Oxide	J : $\pm 5\%$
Metal Film	K : $\pm 10\%$
S : Solid	M : $\pm 20\%$
W : Wire Wound	

#### 2. Capacitor

Example:

**C** 0.01PF, **Z**, 50V

TYPE ALLOWANCE

TYPE	ALLOWANCE
C : Ceramic	C : $\pm 0.25\text{pF}$
E : Electrolytic	D : $\pm 0.5\text{pF}$
P : Polyester	F : $\pm 1\text{pF}$
PP : Polypropylene	J : $\pm 5\%$
S : Styrol	K : $\pm 10\%$
T : Tantalum	L : $\pm 15\%$
	M : $\pm 20\%$
	P : $+100\%, -0\%$
	Z : $+80\%, -20\%$

**Note:** For G  $\bigcirc$   $\bigcirc$  of Ref. No., not indicate illustration of it part on "Exploded Views".

Printed wiring board assembly with mark (RTL) is no longer available after production discontinuation of the complete set.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
MECHANICAL PARTS					
$\Delta$ K1	A48094-1	RUBBER CUSHION	K29	CN40054-00F	FOOT
K2	CELD056-001	DEGAUSSING COIL	G6	CP11224-052	CARTON
G1	CEMG002-001Z	FUSE HOLDER	G7	CP11441-A0A	CUSHION
K3	CE40764-00A	DY WEDGE	G8	CP20714-001	POWER CORD CASE
K4	CE42378-00B	MAGNET	G9	CP30974-005	SET COVER
G2	CHFB10924BDN	FFC CABLE	G10	CP30975-001	BAG
G3	CHFB11318BDN	FFC CABLE	G11	CP40248-001	TOP COVER
$\Delta$ K5	CJ28229-00A	DEFLECTION YOKE	G12	LCT0051-001A	INSTRUCTION BOOK
K6	CM12530B01V0	PB BASE	$\Delta$ K30	M48JBY02X/E	COLOR PICTURE TUBE
K7	CM12531001V0	CHASSIS BASE	K31	NFS5000Z	NUT
K8	CM12690-002	TOP COVER	$\Delta$ K32	QMCB004-001	3P INLET
K9	CM12692-00A	REAR PANEL	$\Delta$ G13	QMP010200JC	POWER CORD (For EN)
K10	CM12694-A0A	BOTTOM BASE	$\Delta$ G14	QMP4908-200K	POWER CORD (For UK)
K11	CM1269700EM0	FRONT PANEL	G15	QPGA01503005	BAG
K12	CM22752001V0	TRANS HOLDER	K33	Q03091-152	WASHER
K13	CM22909-A01	CONTROL BRACKET	K34	SBSF4012Z	SCREW
K14	CM22912-004	CONTROL PANEL	K35	9050-03T	SPEAKER
K15	CM22919-001	BOTTOM SHIELD	INTEGRATED CIRCUITS		
K16	CM35326-002	HANDLE	ICM001	CXD2018Q	MOS IC (OTHER LOGIC)
K17	CM35946-A01	TERMINAL PANEL	ICM101	UPC358G-W	LINEAR IC
K18	CM36249-A01	SHIELD COVER	ICM102	UPC358G-W	LINEAR IC
K19	CM36251-002	CURSOR KNOB	IC1101	TC4053BP	MOS IC (CMOS LOGIC)
G4	CM36586-004R	MODEL NAME LABEL	IC1201	AN5625N	LINEAR IC
K20	CM41393-001	CLAMPER	IC1202	TC4053BP	MOS IC (CMOS LOGIC)
K21	CM44287-00C	SCREW	IC1203	AN5640	LINEAR IC
K22	CM44530-E01	TALLY PLATE	IC1204	UPC358HA	LINEAR IC
K23	CM46044-002	PUSH KNOB	IC1301	UPC358HA	LINEAR IC
K24	CM46115-003	POWER KNOB	IC1302	UPC358HA	LINEAR IC
K25	CM47853-006	VOLUME KNOB	IC1303	UPC358HA	LINEAR IC
K26	CM47947-002	SPEAKER NET	IC1304	TC4053BP	MOS IC (CMOS LOGIC)
K27	CM48005-001	LINKAGE BUSHING	IC1305	TC4053BP	MOS IC (CMOS LOGIC)
G5	CM48038-001	LED HOLDER			
K28	CM48199-A01	PANASONIC BADGE			

	Ref. No.	Part No.	Description		Ref. No.	Part No.	Description	
△	IC1401	TDA4672	LINEAR IC		Q1205	2SC2712(YG)	TRANSISTOR	
	IC1402	TDA4680/V6	LINEAR IC		Q1206	2SC2712(YG)	TRANSISTOR	
	IC1403	AN7808	LINEAR IC		Q1207	2SC2712(YG)	TRANSISTOR	
	IC1501	TC4053BP	MOS IC (CMOS LOGIC)		Q1208	2SC2712(YG)	TRANSISTOR	
	IC1502	TC4538BP	MOS IC (CMOS S/LOGIC)		Q1210	2SC2712(YG)	TRANSISTOR	
	IC1503	TC4538BP	MOS IC (CMOS S/LOGIC)		Q1212	2SC2712(YG)	TRANSISTOR	
	IC1504	TC4538BP	MOS IC (CMOS S/LOGIC)		Q1301	2SC2712(YG)	TRANSISTOR	
	IC1505	TC4538BP	MOS IC (CMOS S/LOGIC)		Q1302	2SC2712(YG)	TRANSISTOR	
	IC1506	TC4538BP	MOS IC (CMOS S/LOGIC)		Q1303	2SK374	FET	
	IC1507	TC4538BP	MOS IC (CMOS S/LOGIC)		Q1304	2SC2712(YG)	TRANSISTOR	
	IC1508	TC4538BP	MOS IC (CMOS S/LOGIC)		Q1305	2SC2712(YG)	TRANSISTOR	
	IC1509	TC4053BP	MOS IC (CMOS LOGIC)		Q1306	2SC2712(YG)	TRANSISTOR	
	IC1510	HD74LS00P	MOS IC (TTL)		Q1307	2SA1162YG	TRANSISTOR	
	IC1511	HD74LS05P	MOS IC (TTL)		Q1308	2SC2712(YG)	TRANSISTOR	
	IC1601	AN5265	LINEAR IC		Q1331	2SC2712(YG)	TRANSISTOR	
	IC2301	NJM4560D	LINEAR IC		Q1332	2SC2712(YG)	TRANSISTOR	
	IC2303	AN79L05-Y	LINEAR IC		Q1333	2SK374	FET	
	IC2401	UPC1498H	LINEAR IC		Q1334	2SC2712(YG)	TRANSISTOR	
	IC2403	NJM4560D	LINEAR IC		Q1361	2SC2712(YG)	TRANSISTOR	
	IC2404	AN7812F	LINEAR IC		Q1362	2SC2712(YG)	TRANSISTOR	
	IC2405	TA79012S	LINEAR IC		Q1363	2SK374	FET	
	IC2406	TA78L009APY	LINEAR IC		Q1364	2SC2712(YG)	TRANSISTOR	
	IC2407	AN7812F	LINEAR IC		Q1451	2SC2712(YG)	TRANSISTOR	
	IC2408	AN7805F	LINEAR IC		Q1452	2SC2712(YG)	TRANSISTOR	
	IC2501	HA11423	LINEAR IC		Q1453	2SC2712(YG)	TRANSISTOR	
	IC2551	TC4066BP	MOS IC (CMOS LOGIC)		Q1454	2SA1162YG	TRANSISTOR	
	IC2553	TC4538BP	MOS IC (CMOS S/LOGIC)		Q1455	2SC2712(YG)	TRANSISTOR	
	IC2554	LM2940CT-12	LINEAR IC		Q1456	2SC2712(YG)	TRANSISTOR	
	IC2555	AN7812F	LINEAR IC		Q1457	2SC2712(YG)	TRANSISTOR	
	IC2601	NJM4560D	LINEAR IC		Q1458	2SC2712(YG)	TRANSISTOR	
	IC5101	MB89647PF140	MOS IC (8BIT)		Q1459	2SC2712(YG)	TRANSISTOR	
	IC5102	MB90077PF109	MOS IC (OTHER LOGIC)		Q1460	2SC2712(YG)	TRANSISTOR	
	IC5103	ST24BM-1400	MOS IC (EEP ROM)		Q1461	2SC2712(YG)	TRANSISTOR	
	IC5105	GP1U781Q	HYBRID IC		Q1462	2SC2712(YG)	TRANSISTOR	
	IC5106	HD74HC158FP	MOS IC (CMOS S/LOGIC)		Q1501	2SA1162YG	TRANSISTOR	
	IC5108	HD74HC32FP	MOS IC (CMOS S/LOGIC)		Q1502	2SC2712(YG)	TRANSISTOR	
	IC5401	UPC4558G-W	LINEAR IC		Q1503	2SC2712(YG)	TRANSISTOR	
	IC6201	LA7016	LINEAR IC		Q1504	2SC2712(YG)	TRANSISTOR	
	IC6601	TC4066BP	MOS IC (CMOS LOGIC)		Q1505	2SC2712(YG)	TRANSISTOR	
	IC6701	TC4053BP	MOS IC (CMOS LOGIC)		Q1506	2SA1162YG	TRANSISTOR	
	IC6801	HD74LS04P	MOS IC (TTL)		Q1507	2SC2712(YG)	TRANSISTOR	
	△	IC9001	FA5301BP	LINEAR IC		Q1508	2SC2712(YG)	TRANSISTOR
						Q1509	2SC2712(YG)	TRANSISTOR
						Q1510	2SA1162YG	TRANSISTOR
						Q1511	2SC2712(YG)	TRANSISTOR
					Q1512	2SC2712(YG)	TRANSISTOR	
					Q1513	2SC2712(YG)	TRANSISTOR	
					Q1514	2SC2712(YG)	TRANSISTOR	
					Q1515	2SC2712(YG)	TRANSISTOR	
					Q2301	2SC4632	TRANSISTOR	
					Q2302	2SC1815Y	TRANSISTOR	
					Q2303	2SC1815Y	TRANSISTOR	
					Q2304	2SC1815Y	TRANSISTOR	
					Q2401	2SC3311A	TRANSISTOR	
					Q2402	2SC1815Y	TRANSISTOR	
					Q2403	2SC1815Y	TRANSISTOR	
					Q2404	2SC1815Y	TRANSISTOR	
					Q2405	2SC1815Y	TRANSISTOR	
					Q2501	2SC3187	TRANSISTOR	
				△	Q2502	2SC4589	TRANSISTOR	
					Q2504	2SA1309AR	TRANSISTOR	
					Q2506	2SC1815Y	TRANSISTOR	
					Q2510	2SA1309AR	TRANSISTOR	
					Q2511	2SD1408(OY)	TRANSISTOR	
					Q2551	2SC1815Y	TRANSISTOR	
					Q2552	2SC1815Y	TRANSISTOR	
					Q2554	2SC1815Y	TRANSISTOR	
					Q2556	2SC1815Y	TRANSISTOR	
					Q2601	2SC1959(Y)-T	TRANSISTOR	



	Ref. No.	Part No.	Description		Ref. No.	Part No.	Description
	Q2603	2SC1959(Y)-T	TRANSISTOR	△	Q9002	2SC1959(Y)-T	TRANSISTOR
	Q2701	2SC1815Y	TRANSISTOR		Q9003	2SA562TM	TRANSISTOR
	Q3301	2SC4502	TRANSISTOR		Q9004	2SK1118	FET
	Q3302	2SC4502	TRANSISTOR		Q9005	2SD1409	TRANSISTOR
	Q3303	2SC4502	TRANSISTOR		Q9006	2SC1959(Y)-T	TRANSISTOR
	Q3304	2SC4544	TRANSISTOR		Q9008	2SA1370(E)	TRANSISTOR
	Q3305	2SC4544	TRANSISTOR		Q9012	2SC1472K(AB)	TRANSISTOR
	Q3306	2SC4544	TRANSISTOR				
	Q3307	2SA1321	TRANSISTOR				
	Q3308	2SA1321	TRANSISTOR				
	Q3309	2SA1321	TRANSISTOR				
	Q3310	2SC3334	TRANSISTOR				
	Q3311	2SC3334	TRANSISTOR				
	Q3312	2SC3334	TRANSISTOR				
	Q3501	2SC1505	TRANSISTOR				
	Q5101	2SC2712(YG)	TRANSISTOR				
	Q5102	2SC2712(YG)	TRANSISTOR				
	Q5103	2SC2712(YG)	TRANSISTOR				
	Q5104	2SC2712(YG)	TRANSISTOR				
	Q5105	2SC2712(YG)	TRANSISTOR				
	Q5106	2SC2712(YG)	TRANSISTOR				
	Q5201	2SC2712(YG)	TRANSISTOR				
	Q5202	2SA1162YG	TRANSISTOR				
	Q5203	2SC2712(YG)	TRANSISTOR				
	Q5204	2SA1162YG	TRANSISTOR				
	Q5205	2SC2712(YG)	TRANSISTOR				
	Q5206	2SA1162YG	TRANSISTOR				
	Q5207	2SC2712(YG)	TRANSISTOR				
	Q5208	2SC2712(YG)	TRANSISTOR				
	Q5209	2SC2712(YG)	TRANSISTOR				
	Q5210	2SC2712(YG)	TRANSISTOR				
	Q5301	2SA1162YG	TRANSISTOR				
	Q5302	2SA1162YG	TRANSISTOR				
	Q5303	2SA1162YG	TRANSISTOR				
	Q5304	2SC2712(YG)	TRANSISTOR				
	Q5401	2SC2712(YG)	TRANSISTOR				
	Q6201	2SC1740S	TRANSISTOR				
	Q6202	2SC1740S	TRANSISTOR				
	Q6203	2SC1740S	TRANSISTOR				
	Q6204	2SC1740S	TRANSISTOR				
	Q6206	2SC1740S	TRANSISTOR				
	Q6211	2SK301(Q)-T	FET				
	Q6301	2SC1740S	TRANSISTOR				
	Q6302	2SC1740S	TRANSISTOR				
	Q6303	2SC1740S	TRANSISTOR				
	Q6601	2SC1740S	TRANSISTOR				
	Q6602	2SC1740S	TRANSISTOR				
	Q6603	2SC1740S	TRANSISTOR				
	Q6604	2SC1740S	TRANSISTOR				
	Q6605	2SC1740S	TRANSISTOR				
	Q6606	2SC1740S	TRANSISTOR				
	Q6701	2SC1740S	TRANSISTOR				
	Q6702	2SC1740S	TRANSISTOR				
	Q6703	2SC1740S	TRANSISTOR				
	Q6704	2SC1740S	TRANSISTOR				
	Q6706	2SC1740S	TRANSISTOR				
	Q6707	2SA933S	TRANSISTOR				
	Q6708	2SC1740S	TRANSISTOR				
	Q6709	2SC1740S	TRANSISTOR				
	Q6711	2SC1740S	TRANSISTOR				
	Q6712	2SA933S	TRANSISTOR				
	Q6713	2SC1740S	TRANSISTOR				
	Q6714	2SC1740S	TRANSISTOR				
	Q6716	2SC1740S	TRANSISTOR				
	Q6717	2SC1740S	TRANSISTOR				
	Q6718	2SC1740S	TRANSISTOR				
	Q6719	2SC1740S	TRANSISTOR				
	Q6720	2SC1740S	TRANSISTOR				
	Q9001	2SC1959(Y)-T	TRANSISTOR				

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
D2711	1SS133	DIODE	D5713	MA3056L	DIODE
D3301	MA165	DIODE	D5714	MA8056	DIODE
D3302	MA165	DIODE	D5715	MA3056L	DIODE
D3303	MA165	DIODE	D5716	MA8056	DIODE
D3304	1SS83	DIODE	D5717	MA3150M	DIODE
D3305	1SS83	DIODE	D5718	MA3056L	DIODE
D3306	1SS83	DIODE	D5719	MA8130	ZENER DIODE
D3307	1SS120	DIODE	D5720	MA3056L	DIODE
D3308	1SS120	DIODE	D5721	MA3056L	DIODE
D3309	1SS120	DIODE	D5722	MA3056L	DIODE
D3316	MA4075M	ZENER DIODE	D5723	MA8056	DIODE
D3501	TVSRGP10J	DIODE	D5724	MA3150M	DIODE
D3502	TVSRGP10J	DIODE	D5725	MA8130	ZENER DIODE
D3503	1SS146	DIODE	D5726	MA3056L	DIODE
D3504	1SS146	DIODE	D5727	MA8056	DIODE
D4101	MA165	DIODE	D5728	MA3056L	DIODE
D4102	MA165	DIODE	D5729	MA3056L	DIODE
D4103	MA165	DIODE	D5730	MA3056L	DIODE
D4104	MA165	DIODE	D5731	MA3056L	DIODE
D4105	MA165	DIODE	D5732	MA3056L	DIODE
D4106	MA165	DIODE	D6201	1SS133	DIODE
D4107	MA165	DIODE	D6202	1SS133	DIODE
D4108	MA165	DIODE	D6203	1SS133	DIODE
D4109	MA165	DIODE	D6204	1SS133	DIODE
D4110	MA165	DIODE	D6205	1SS133	DIODE
D4111	MA165	DIODE	D6206	1SS133	DIODE
D4112	MA165	DIODE	D6207	1SS133	DIODE
D4113	MA165	DIODE	D6208	1SS133	DIODE
D4114	MA165	DIODE	D6209	1SS133	DIODE
D4115	RD5.6E	ZENER DIODE	D6211	1SS133	DIODE
D4116	RD5.6E	ZENER DIODE	D6212	1SS133	DIODE
D4117	RD5.6E	ZENER DIODE	D6301	1SS133	DIODE
D4118	RD5.6E	ZENER DIODE	D6302	1SS133	DIODE
D4119	RD5.6E	ZENER DIODE	D6303	1SS133	DIODE
D4120	GL5KG8	LED	D6701	1SS133	DIODE
D4121	MA165	DIODE	D6702	1SS133	DIODE
D4122	MA165	DIODE	D6703	1SS133	DIODE
D4123	MA165	DIODE	D6704	1SS133	DIODE
D5101	MA3056L	DIODE	D6705	1SS133	DIODE
D5102	MA3056L	DIODE	D6706	1SS133	DIODE
D5103	MA3056L	DIODE	D6707	1SS133	DIODE
D5104	MA3056L	DIODE	D6708	1SS133	DIODE
D5105	MA3056L	DIODE	D6709	1SS133	DIODE
D5106	MA3056L	DIODE	D6710	1SS133	DIODE
D5107	MA3056L	DIODE	D6711	1SS133	DIODE
D5108	MA3056L	DIODE	D6712	1SS133	DIODE
D5109	MA3056L	DIODE	D6801	1SS133	DIODE
D5110	MA3056L	DIODE	D6802	1SS133	DIODE
D5111	MA3056L	DIODE	D6803	1SS133	DIODE
D5112	MA3043	DIODE	D6804	1SS133	DIODE
D5113	MA151K	DIODE	D6805	1SS133	DIODE
D5114	MA151K	DIODE	D6806	1SS133	DIODE
D5301	MA151K	DIODE	D6807	1SS133	DIODE
D5501	MA3056L	DIODE	D6808	1SS133	DIODE
D5502	MA3056L	DIODE	D6809	1SS133	DIODE
D5503	MA3056L	DIODE	D6810	1SS133	DIODE
D5504	MA3056L	DIODE	D9001	S4VB60	DIODE
D5701	MA3150M	DIODE	D9005	TVSRG2	DIODE
D5702	MA3056L	DIODE	D9006	FML-G12S	DIODE
D5703	MA3056L	DIODE	D9009	1SS133	DIODE
D5704	MA3056L	DIODE	D9010	RL4Z	DIODE
D5705	MA3150M	DIODE	D9012	EU2A	DIODE
D5706	MA3150M	DIODE	D9013	1SS133	DIODE
D5707	MA3056L	DIODE	D9014	1SS133	DIODE
D5708	MA3056L	DIODE	D9016	1SS133	DIODE
D5709	MA3150M	DIODE	D9017	1SS133	DIODE
D5710	MA3150M	DIODE	D9018	RG4C	DIODE
D5711	MA3150M	DIODE	D9019	RG4C	DIODE
D5712	MA8130	ZENER DIODE	D9020	1SS133	DIODE

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
D9021	RD6.8E	DIODE	△ FR9901	QRH127K-R22M	F 0.22 OHM, K, 1/2W
D9022	RD6.8E	DIODE	△ FR9902	QRH127K-R22M	F 0.22 OHM, K, 1/2W
D9023	MA4110M	ZENER DIODE	△ FR9903	QRH127K-R22M	F 0.22 OHM, K, 1/2W
D9024	RD5.6E	ZENER DIODE	RM001	QRSA08J101YL	M 100 OHM, J, 1/10W
D9026	RD18ES(B3)	ZENER DIODE	RM002	QRSA08J101YL	M 100 OHM, J, 1/10W
D9027	MA4300M	ZENER DIODE	RM003	QRSA08J102YL	M 1 KOHM, J, 1/10W
D9028	1SS81	DIODE	RM004	QRSA08J102YL	M 1 KOHM, J, 1/10W
D9032	1SS81	DIODE	RM005	QRSA08J334YL	M 330 KOHM, J, 1/10W
D9033	RD3.3E	ZENER DIODE	RM006	QRSA08J123YL	M 12 KOHM, J, 1/10W
COILS			RM007	QRSA08J101YL	M 100 OHM, J, 1/10W
LM001	CELP006-4R7Z	PEAKING COIL 4.7U	RM101	QRSA08J563YL	M 56 KOHM, J, 1/10W
LM101	CELP006-4R7Z	PEAKING COIL 4.7U	RM102	QRSA08J103YL	M 10 KOHM, J, 1/10W
L1101	CELP026100Z	PEAKING COIL 10U	RM103	QRSA08J101YL	M 100 OHM, J, 1/10W
L1102	CELP026150Z	PEAKING COIL 15U	RM104	QRSA08J472YL	M 4.7 KOHM, J, 1/10W
L1103	CELP0265R6Z	PEAKING COIL 5.6U	RM105	QRSA08J103YL	M 10 KOHM, J, 1/10W
L1104	CELP026270Z	PEAKING COIL 27U	RM106	QRSA08J333YL	M 33 KOHM, J, 1/10W
L1201	CELP0268R2Z	PEAKING COIL 8.2U	RM107	QRSA08J333YL	M 33 KOHM, J, 1/10W
L1202	CELP0268R2Z	PEAKING COIL 8.2U	RM108	QRSA08J101YL	M 100 OHM, J, 1/10W
L1203	CELP026390Z	PEAKING COIL 39U	RM109	QRSA08J101YL	M 100 OHM, J, 1/10W
L1204	CELP0264R7Z	PEAKING COIL 4.7U	RM110	QRSA08J101YL	M 100 OHM, J, 1/10W
L1206	CELP026820Z	PEAKING COIL 82U	RM111	QRSA08J101YL	M 100 OHM, J, 1/10W
L1207	CELP026820Z	PEAKING COIL 82U	RM112	QRSA08J101YL	M 100 OHM, J, 1/10W
L1601	CELP0264R7Z	PEAKING COIL 4.7U	RM113	QRSA08J104YL	M 100 KOHM, J, 1/10W
L2501	CELC009003	CHOKE COIL	R1002	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L2502	CELL009001	LINEARITY COIL	R1003	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L2701	CJ30030026	HEATER CHOKE	R1004	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L3301	CELP026-5R6Z	PEAKING COIL 5.6U	R1005	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L3302	CELP026-4R7Z	PEAKING COIL 4.7U	R1006	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L3303	CELP026-3R9Z	PEAKING COIL 3.9U	R1008	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L3304	CELP026-220Z	PEAKING COIL 22U	R1010	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L3305	CELP026-180Z	PEAKING COIL 18U	R1011	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L3306	CELP026-220Z	PEAKING COIL 22U	R1012	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L3501	CELC050562Z	PEAKING COIL 560U	R1013	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L5101	CELP008100YL	CHIP COIL	R1015	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L5102	CELP008100YL	CHIP COIL	R1020	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L5103	CELP008330YL	INDUCTOR	R1022	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L6701	CELP026-330Z	PEAKING COIL 33U	R1023	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L6702	CELP026-680Z	PEAKING COIL 68U	R1024	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L6703	CELP026-330Z	PEAKING COIL 33U	R1025	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L6704	CELP026-680Z	PEAKING COIL 68U	R1026	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L9901	CELP006-4R7Z	PEAKING COIL 4.7U	R1027	QRSA08J0R0YL	M 0 OHM, J, 1/10W
L9902	CJ30030-100	HEATER CHOKE	R1028	QRSA08J0R0YL	M 0 OHM, J, 1/10W
TRANSFORMERS			R1029	QRSA08J0R0YL	M 0 OHM, J, 1/10W
△ T701	CJ28256-00A	FLYBACK TRANS.	R1030	QRSA08J0R0YL	M 0 OHM, J, 1/10W
T1101	CE41072001	BAND PASS FILTER	R1031	QRSA08J0R0YL	M 0 OHM, J, 1/10W
T1102	CE40176001	PHASE TRANS.	R1032	QRSA08J0R0YL	M 0 OHM, J, 1/10W
T1201	CELT034002	BAND PASS FILTER	R1033	QRSA08J0R0YL	M 0 OHM, J, 1/10W
△ T2502	CE42034001	H DRIVE TRANS.	R1034	QRSA08J0R0YL	M 0 OHM, J, 1/10W
△ T9001	CETS031-001	SWITCHING TRANS.	R1035	QRSA08J0R0YL	M 0 OHM, J, 1/10W
△ T9002	CE41856-00A	DRIVE TRANS.	R1036	QRSA08J0R0YL	M 0 OHM, J, 1/10W
RESISTORS			R1037	QRSA08J0R0YL	M 0 OHM, J, 1/10W
△ FR2301	QRH127J182M	F 1.8 KOHM, J, 1/2W	R1038	QRSA08J0R0YL	M 0 OHM, J, 1/10W
△ FR2426	QRH127K-R22M	F 0.22 OHM, K, 1/2W	R1051	QRSA08J0R0YL	M 0 OHM, J, 1/10W
△ FR2525	QRH127J1R0M	F 1 OHM, J, 1/2W	R1052	QRSA08J332YL	M 3.3 KOHM, J, 1/10W
△ FR2702	QRH127K-R22M	F 0.22 OHM, K, 1/2W	R1053	QRSA08J0R0YL	M 0 OHM, J, 1/10W
△ FR2704	QRH127J4R7M	F 4.7 OHM, J, 1/2W	R1055	QRSA08J0R0YL	M 0 OHM, J, 1/10W
			R1056	QRSA08J0R0YL	M 0 OHM, J, 1/10W
			R1057	QRSA08J822YL	M 8.2 KOHM, J, 1/10W
			R1058	QRSA08J123YL	M 12 KOHM, J, 1/10W
			R1101	QRSA08J222YL	M 2.2 KOHM, J, 1/10W
			R1102	QRSA08J102YL	M 1 KOHM, J, 1/10W
			R1103	QRSA08J472YL	M 4.7 KOHM, J, 1/10W
			R1104	QRSA08J122YL	M 1.2 KOHM, J, 1/10W
			R1105	QRSA08J561YL	M 560 OHM, J, 1/10W
			R1106	QRSA08J681YL	M 680 OHM, J, 1/10W
			R1107	QVPC611202HZ	CONTROL 20 KOHMB
			R1108	QRSA08J470YL	M 47 OHM, J, 1/10W
			R1109	QRSA08J271YL	M 270 OHM, J, 1/10W
			R1110	QRSA08J122YL	M 1.2 KOHM, J, 1/10W

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R1111	QRSA08J271YL	M 270 OHM, J, 1/10W	R1230	QRSA08J332YL	M 3.3KOHM, J, 1/10W
R1112	QRSA08J102YL	M 1KOHM, J, 1/10W	R1231	QRSA08J332YL	M 3.3KOHM, J, 1/10W
R1113	QRSA08J681YL	M 680 OHM, J, 1/10W	R1232	QRSA08J102YL	M 1KOHM, J, 1/10W
R1114	QRSA08J102YL	M 1KOHM, J, 1/10W	R1233	QRSA08J152YL	M 1.5KOHM, J, 1/10W
R1115	QRSA08J681YL	M 680 OHM, J, 1/10W	R1234	QRSA08J152YL	M 1.5KOHM, J, 1/10W
R1116	QRSA08J122YL	M 1.2KOHM, J, 1/10W	R1235	QRSA08J332YL	M 3.3KOHM, J, 1/10W
R1117	QVPC611501HZ	CONTROL 500 OHMB	R1236	QRSA08J332YL	M 3.3KOHM, J, 1/10W
R1118	QRSA08J102YL	M 1KOHM, J, 1/10W	R1237	QRSA08J472YL	M 4.7KOHM, J, 1/10W
R1119	QRSA08J102YL	M 1KOHM, J, 1/10W	R1238	QRSA08J153YL	M 15KOHM, J, 1/10W
R1120	QVPC611202HZ	CONTROL 20KOHMB	R1239	QRSA08J472YL	M 4.7KOHM, J, 1/10W
R1121	QRSA08J471YL	M 470 OHM, J, 1/10W	R1240	QRSA08J104YL	M 100KOHM, J, 1/10W
R1122	QRSA08J102YL	M 1KOHM, J, 1/10W	R1241	QRSA08J153YL	M 15KOHM, J, 1/10W
R1123	QRSA08J681YL	M 680 OHM, J, 1/10W	R1242	QRSA08J272YL	M 2.7KOHM, J, 1/10W
R1124	QRSA08J182YL	M 1.8KOHM, J, 1/10W	R1243	QRSA08J272YL	M 2.7KOHM, J, 1/10W
R1125	QRSA08J681YL	M 680 OHM, J, 1/10W	R1244	QRSA08J122YL	M 1.2KOHM, J, 1/10W
R1126	QRSA08J562YL	M 5.6KOHM, J, 1/10W	R1245	QRSA08J123YL	M 12KOHM, J, 1/10W
R1127	QRSA08J182YL	M 1.8KOHM, J, 1/10W	R1246	QRSA08J182YL	M 1.8KOHM, J, 1/10W
R1128	QRSA08J822YL	M 8.2KOHM, J, 1/10W	R1247	QRSA08J104YL	M 100KOHM, J, 1/10W
R1129	QRSA08J183YL	M 18KOHM, J, 1/10W	R1248	QRSA08J123YL	M 12KOHM, J, 1/10W
R1130	QRSA08J182YL	M 1.8KOHM, J, 1/10W	R1249	QRSA08J822YL	M 8.2KOHM, J, 1/10W
R1131	QRSA08J122YL	M 1.2KOHM, J, 1/10W	R1250	QRSA08J122YL	M 1.2KOHM, J, 1/10W
R1132	QRSA08J0R0YL	M 0 OHM, J, 1/10W	R1251	QRSA08J122YL	M 1.2KOHM, J, 1/10W
R1133	QRD162J562	C 5.6KOHM, J, 1/6W	R1252	QRSA08J222YL	M 2.2KOHM, J, 1/10W
R1134	QRSA08J183YL	M 18KOHM, J, 1/10W	R1254	QRSA08J683YL	M 68KOHM, J, 1/10W
R1135	QRSA08J223YL	M 22KOHM, J, 1/10W	R1256	QRSA08J123YL	M 12KOHM, J, 1/10W
R1136	QRSA08J561YL	M 560 OHM, J, 1/10W	R1257	QRSA08J123YL	M 12KOHM, J, 1/10W
R1137	QRSA08J561YL	M 560 OHM, J, 1/10W	R1258	QRSA08J123YL	M 12KOHM, J, 1/10W
R1139	QRSA08J562YL	M 5.6KOHM, J, 1/10W	R1259	QRSA08J123YL	M 12KOHM, J, 1/10W
R1140	QRSA08J102YL	M 1KOHM, J, 1/10W	R1260	QRSA08J273YL	M 27KOHM, J, 1/10W
R1141	QRSA08J102YL	M 1KOHM, J, 1/10W	R1301	QRSA08J273YL	M 27KOHM, J, 1/10W
R1142	QRSA08J102YL	M 1KOHM, J, 1/10W	R1302	QRSA08J153YL	M 15KOHM, J, 1/10W
R1143	QRSA08J102YL	M 1KOHM, J, 1/10W	R1303	QRSA08J102YL	M 1KOHM, J, 1/10W
R1144	QRSA08J472YL	M 4.7KOHM, J, 1/10W	R1304	QRSA08J471YL	M 470 OHM, J, 1/10W
R1145	QRSA08J272YL	M 2.7KOHM, J, 1/10W	R1305	QRSA08J102YL	M 1KOHM, J, 1/10W
R1146	QRSA08J273YL	M 27KOHM, J, 1/10W	R1306	QRSA08J102YL	M 1KOHM, J, 1/10W
R1147	QRSA08J472YL	M 4.7KOHM, J, 1/10W	R1307	QRSA08J105YL	M 1MOHM, J, 1/10W
R1148	QRSA08J332YL	M 3.3KOHM, J, 1/10W	R1308	QRSA08J103YL	M 10KOHM, J, 1/10W
R1149	QRSA08J683YL	M 68KOHM, J, 1/10W	R1309	QRSA08J103YL	M 10KOHM, J, 1/10W
R1150	QRSA08J273YL	M 27KOHM, J, 1/10W	R1310	QRSA08J123YL	M 12KOHM, J, 1/10W
R1151	QRSA08J101YL	M 100 OHM, J, 1/10W	R1311	QRSA08J103YL	M 10KOHM, J, 1/10W
R1201	QRSA08J392YL	M 3.9KOHM, J, 1/10W	R1312	QRSA08J103YL	M 10KOHM, J, 1/10W
R1202	QRSA08J392YL	M 3.9KOHM, J, 1/10W	R1313	QRSA08J102YL	M 1KOHM, J, 1/10W
R1203	QRSA08J102YL	M 1KOHM, J, 1/10W	R1314	QRSA08J152YL	M 1.5KOHM, J, 1/10W
R1204	QRSA08J102YL	M 1KOHM, J, 1/10W	R1315	QRSA08J273YL	M 27KOHM, J, 1/10W
R1205	QRSA08J122YL	M 1.2KOHM, J, 1/10W	R1316	QRSA08J183YL	M 18KOHM, J, 1/10W
R1206	QRSA08J332YL	M 3.3KOHM, J, 1/10W	R1317	QRSA08J182YL	M 1.8KOHM, J, 1/10W
R1207	QRSA08J391YL	M 390 OHM, J, 1/10W	R1318	QRSA08J332YL	M 3.3KOHM, J, 1/10W
R1208	QRSA08J681YL	M 680 OHM, J, 1/10W	R1319	QRSA08J274YL	M 270KOHM, J, 1/10W
R1209	QRSA08J471YL	M 470 OHM, J, 1/10W	R1320	QRSA08J123YL	M 12KOHM, J, 1/10W
R1210	QVPC611202HZ	CONTROL 20KOHMB	R1321	QRSA08J123YL	M 12KOHM, J, 1/10W
R1211	QRSA08J562YL	M 5.6KOHM, J, 1/10W	R1322	QRSA08J123YL	M 12KOHM, J, 1/10W
R1212	QRSA08J682YL	M 6.8KOHM, J, 1/10W	R1331	QRSA08J273YL	M 27KOHM, J, 1/10W
R1213	QRSA08J273YL	M 27KOHM, J, 1/10W	R1332	QRSA08J153YL	M 15KOHM, J, 1/10W
R1214	QRSA08J273YL	M 27KOHM, J, 1/10W	R1333	QRSA08J102YL	M 1KOHM, J, 1/10W
R1215	QRSA08J123YL	M 12KOHM, J, 1/10W	R1334	QRSA08J391YL	M 390 OHM, J, 1/10W
R1216	QRSA08J562YL	M 5.6KOHM, J, 1/10W	R1335	QRSA08J102YL	M 1KOHM, J, 1/10W
R1217	QRSA08J224YL	M 220KOHM, J, 1/10W	R1336	QRSA08J102YL	M 1KOHM, J, 1/10W
R1218	QRSA08J103YL	M 10KOHM, J, 1/10W	R1337	QRSA08J105YL	M 1MOHM, J, 1/10W
R1219	QRSA08J223YL	M 22KOHM, J, 1/10W	R1338	QRSA08J103YL	M 10KOHM, J, 1/10W
R1220	QRSA08J684YL	M 680KOHM, J, 1/10W	R1339	QRSA08J103YL	M 10KOHM, J, 1/10W
R1221	QRSA08J102YL	M 1KOHM, J, 1/10W	R1340	QRSA08J123YL	M 12KOHM, J, 1/10W
R1222	QRSA08J681YL	M 680 OHM, J, 1/10W	R1341	QRSA08J103YL	M 10KOHM, J, 1/10W
R1223	QRSA08J122YL	M 1.2KOHM, J, 1/10W	R1342	QRSA08J103YL	M 10KOHM, J, 1/10W
R1224	QRSA08J272YL	M 2.7KOHM, J, 1/10W	R1343	QRSA08J102YL	M 1KOHM, J, 1/10W
R1225	QRSA08J122YL	M 1.2KOHM, J, 1/10W	R1344	QRSA08J272YL	M 2.7KOHM, J, 1/10W
R1226	QRSA08J272YL	M 2.7KOHM, J, 1/10W	R1345	QRSA08J123YL	M 12KOHM, J, 1/10W
R1227	QRSA08J102YL	M 1KOHM, J, 1/10W	R1346	QRSA08J393YL	M 39KOHM, J, 1/10W
R1228	QRSA08J102YL	M 1KOHM, J, 1/10W	R1361	QRSA08J273YL	M 27KOHM, J, 1/10W
R1229	QRSA08J152YL	M 1.5KOHM, J, 1/10W			

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R1362	QRSA08J153YL	M 15KOHM, J, 1/10W	R1520	QRSA08J102YL	M 1KOHM, J, 1/10W
R1363	QRSA08J102YL	M 1KOHM, J, 1/10W	R1521	QRSA08J332YL	M 3.3KOHM, J, 1/10W
R1364	QRSA08J391YL	M 390 OHM, J, 1/10W	R1522	QRSA08J122YL	M 1.2KOHM, J, 1/10W
R1365	QRSA08J102YL	M 1KOHM, J, 1/10W	R1523	QRSA08J473YL	M 47KOHM, J, 1/10W
R1366	QRSA08J102YL	M 1KOHM, J, 1/10W	R1524	QRSA08J272YL	M 2.7KOHM, J, 1/10W
R1367	QRSA08J105YL	M 1MOHM, J, 1/10W	R1525	QRSA08J101YL	M 100 OHM, J, 1/10W
R1368	QRSA08J103YL	M 10KOHM, J, 1/10W	R1526	QRSA08J272YL	M 2.7KOHM, J, 1/10W
R1369	QRSA08J103YL	M 10KOHM, J, 1/10W	R1527	QRSA08J103YL	M 10KOHM, J, 1/10W
R1370	QRSA08J123YL	M 12KOHM, J, 1/10W	R1528	QRSA08J102YL	M 1KOHM, J, 1/10W
R1371	QRSA08J103YL	M 10KOHM, J, 1/10W	R1529	QRSA08J273YL	M 27KOHM, J, 1/10W
R1372	QRSA08J103YL	M 10KOHM, J, 1/10W	R1530	QRSA08J682YL	M 6.8KOHM, J, 1/10W
R1373	QRSA08J102YL	M 1KOHM, J, 1/10W	R1531	QRSA08J472YL	M 4.7KOHM, J, 1/10W
R1374	QRSA08J272YL	M 2.7KOHM, J, 1/10W	R1533	QRSA08J332YL	M 3.3KOHM, J, 1/10W
R1375	QRSA08J153YL	M 15KOHM, J, 1/10W	R1534	QRSA08J332YL	M 3.3KOHM, J, 1/10W
R1376	QRSA08J333YL	M 33KOHM, J, 1/10W	R1535	QRSA08J103YL	M 10KOHM, J, 1/10W
R1381	QRSA08J123YL	M 12KOHM, J, 1/10W	R1536	QRSA08J472YL	M 4.7KOHM, J, 1/10W
R1382	QRSA08J123YL	M 12KOHM, J, 1/10W	R1537	QRSA08J101YL	M 100 OHM, J, 1/10W
R1383	QRSA08J273YL	M 27KOHM, J, 1/10W	R1538	QRSA08J272YL	M 2.7KOHM, J, 1/10W
R1401	QRSA08J101YL	M 100 OHM, J, 1/10W	R1539	QRSA08J272YL	M 2.7KOHM, J, 1/10W
R1402	QRSA08J101YL	M 100 OHM, J, 1/10W	R1540	QRSA08J332YL	M 3.3KOHM, J, 1/10W
R1403	QRSA08J102YL	M 1KOHM, J, 1/10W	R1541	QRSA08J103YL	M 10KOHM, J, 1/10W
R1404	QRSA08J102YL	M 1KOHM, J, 1/10W	R1542	QRSA08J823YL	M 82KOHM, J, 1/10W
R1405	QRSA08J102YL	M 1KOHM, J, 1/10W	R1543	QRSA08J221YL	M 220 OHM, J, 1/10W
R1406	QRSA08J123YL	M 12KOHM, J, 1/10W	R1544	QRSA08J221YL	M 220 OHM, J, 1/10W
R1407	QRSA08J273YL	M 27KOHM, J, 1/10W	R1545	QRSA08J221YL	M 220 OHM, J, 1/10W
R1408	QRSA08J273YL	M 27KOHM, J, 1/10W	R1546	QRSA08J0R0YL	M 0 OHM, J, 1/10W
R1409	QRSA08J273YL	M 27KOHM, J, 1/10W	R1547	QRSA08J221YL	M 220 OHM, J, 1/10W
R1410	QRSA08J273YL	M 27KOHM, J, 1/10W	R1548	QRSA08J102YL	M 1KOHM, J, 1/10W
R1451	QRSA08J272YL	M 2.7KOHM, J, 1/10W	R1551	QRSA08J104YL	M 100KOHM, J, 1/10W
R1453	QRSA08J103YL	M 10KOHM, J, 1/10W	R1552	QRSA08J123YL	M 12KOHM, J, 1/10W
R1454	QRSA08J222YL	M 2.2KOHM, J, 1/10W	R1553	QRSA08J472YL	M 4.7KOHM, J, 1/10W
R1455	QRSA08J823YL	M 82KOHM, J, 1/10W	R1554	QRSA08J273YL	M 27KOHM, J, 1/10W
R1456	QRSA08J102YL	M 1KOHM, J, 1/10W	R1555	QRSA08J273YL	M 27KOHM, J, 1/10W
R1457	QRSA08J102YL	M 1KOHM, J, 1/10W	R1556	QRSA08J184YL	M 180KOHM, J, 1/10W
R1458	QRSA08J392YL	M 3.9KOHM, J, 1/10W	R1557	QRD162J104	C 100KOHM, J, 1/6W
R1459	QRSA08J0R0YL	M 0 OHM, J, 1/10W	R1558	QRSA08J223YL	M 22KOHM, J, 1/10W
R1460	QRSA08J183YL	M 18KOHM, J, 1/10W	R1559	QRSA08J223YL	M 22KOHM, J, 1/10W
R1461	QRSA08J153YL	M 15KOHM, J, 1/10W	R1560	QRSA08J124YL	M 120KOHM, J, 1/10W
R1462	QRSA08J122YL	M 1.2KOHM, J, 1/10W	R1561	QRSA08J562YL	M 5.6KOHM, J, 1/10W
R1463	QRSA08J122YL	M 1.2KOHM, J, 1/10W	R1562	QRSA08J183YL	M 18KOHM, J, 1/10W
R1464	QRSA08J122YL	M 1.2KOHM, J, 1/10W	R1563	QRSA08J563YL	M 56KOHM, J, 1/10W
R1465	QRSA08J101YL	M 100 OHM, J, 1/10W	R1564	QRSA08J473YL	M 47KOHM, J, 1/10W
R1466	QRSA08J101YL	M 100 OHM, J, 1/10W	R1565	QRSA08J124YL	M 120KOHM, J, 1/10W
R1467	QRSA08J101YL	M 100 OHM, J, 1/10W	R1566	QRSA08J564YL	M 560KOHM, J, 1/10W
R1469	QRSA08J393YL	M 39KOHM, J, 1/10W	R1567	QRSA08J154YL	M 150KOHM, J, 1/10W
R1470	QRSA08J273YL	M 27KOHM, J, 1/10W	R1572	QRSA08J563YL	M 56KOHM, J, 1/10W
R1471	QRSA08J273YL	M 27KOHM, J, 1/10W	R1573	QRSA08J392YL	M 3.9KOHM, J, 1/10W
R1472	QRSA08J273YL	M 27KOHM, J, 1/10W	R1574	QRSA08J392YL	M 3.9KOHM, J, 1/10W
R1473	QRSA08J123YL	M 12KOHM, J, 1/10W	R1576	QRSA08J472YL	M 4.7KOHM, J, 1/10W
R1474	QRSA08J273YL	M 27KOHM, J, 1/10W	R1577	QRSA08J0R0YL	M 0 OHM, J, 1/10W
R1501	QRSA08J273YL	M 27KOHM, J, 1/10W	R1578	QRSA08J273YL	M 27KOHM, J, 1/10W
R1502	QRSA08J153YL	M 15KOHM, J, 1/10W	R1579	QRSA08J472YL	M 4.7KOHM, J, 1/10W
R1503	QRSA08J122YL	M 1.2KOHM, J, 1/10W	R1580	QRSA08J472YL	M 4.7KOHM, J, 1/10W
R1504	QRSA08J272YL	M 2.7KOHM, J, 1/10W	R1581	QRSA08J472YL	M 4.7KOHM, J, 1/10W
R1505	QRSA08J473YL	M 47KOHM, J, 1/10W	R1582	QRSA08J273YL	M 27KOHM, J, 1/10W
R1506	QRSA08J393YL	M 39KOHM, J, 1/10W	R1583	QRSA08J560YL	M 56 OHM, J, 1/10W
R1507	QRSA08J182YL	M 1.8KOHM, J, 1/10W	R1601	QRSA08J102YL	M 1KOHM, J, 1/10W
R1508	QRSA08J123YL	M 12KOHM, J, 1/10W	R1602	QRSA08J221YL	M 220 OHM, J, 1/10W
R1509	QRSA08J271YL	M 270 OHM, J, 1/10W	R1603	QRSA08J123YL	M 12KOHM, J, 1/10W
R1510	QRSA08J472YL	M 4.7KOHM, J, 1/10W	R1604	QRSA08J100YL	M 10 OHM, J, 1/10W
R1511	QRSA08J820YL	M 82 OHM, J, 1/10W	R1605	QRSA08J272YL	M 2.7KOHM, J, 1/10W
R1512	QRSA08J820YL	M 82 OHM, J, 1/10W	R1606	QRSA08J391YL	M 390 OHM, J, 1/10W
R1513	QRSA08J121YL	M 120 OHM, J, 1/10W	R2005	QRD121J152SY	C 1.5KOHM, J, 1/2W
R1514	QRSA08J332YL	M 3.3KOHM, J, 1/10W	R2302	QRC121K394Z	C 390KOHM, K, 1/2W
R1515	QRSA08J333YL	M 33KOHM, J, 1/10W	R2303	QRC121K394Z	C 390KOHM, K, 1/2W
R1516	QRSA08J472YL	M 4.7KOHM, J, 1/10W	R2304	QRC121K394Z	C 390KOHM, K, 1/2W
R1517	QRSA08J222YL	M 2.2KOHM, J, 1/10W	R2305	QRD161J155Y	C 1.5KOHM, J, 1/6W
R1518	QRSA08J331YL	M 330 OHM, J, 1/10W	R2306	QRD161J562Y	C 5.6KOHM, J, 1/6W
R1519	QRSA08J332YL	M 3.3KOHM, J, 1/10W	R2307	QRD161J472Y	C 4.7KOHM, J, 1/6W



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R2308	QRC121K473Z	C 47KOHM, K, 1/2W	R2526	QRD161J513Y	C 51KOHM, J, 1/6W
R2309	QRC121K225Z	C 2.2MOHM, K, 1/2W	R2527	QRD161J473Y	C 47KOHM, J, 1/6W
R2310	QRC121K225Z	C 2.2MOHM, K, 1/2W	R2528	QRD121J272SY	C 2.7KOHM, J, 1/2W
R2311	QRC121K225Z	C 2.2MOHM, K, 1/2W	R2529	QRD161J102Y	C 1KOHM, J, 1/6W
R2312	QRD161J683Y	C 68KOHM, J, 1/6W	R2530	QRX029J4R7	M 4.7 OHM, J, 2W
R2313	QVPC611503HZ	CONTROL 50KOHMB	R2531	QRX029J4R7	M 4.7 OHM, J, 2W
R2314	QRD161J103Y	C 10KOHM, J, 1/6W	R2532	QRG029J471	M 470 OHM, J, 2W
R2316	QRD161J153Y	C 15KOHM, J, 1/6W	R2542	QRD161J823Y	C 82KOHM, J, 1/6W
R2317	QRD161J473Y	C 47KOHM, J, 1/6W	R2548	QRG029J102	M 1KOHM, J, 2W
R2318	QRD161J102Y	C 1KOHM, J, 1/6W	R2549	QRG029J102	M 1KOHM, J, 2W
R2319	QRD161J103Y	C 10KOHM, J, 1/6W	R2550	QRG029J222	M 2.2KOHM, J, 2W
R2320	QRD161J472Y	C 4.7KOHM, J, 1/6W	R2551	QRD161J121Y	C 120 OHM, J, 1/6W
R2321	QRD161J103Y	C 10KOHM, J, 1/6W	R2552	QRD161J101Y	C 100 OHM, J, 1/6W
R2401	QRD161J182Y	C 1.8KOHM, J, 1/6W	R2553	QRD161J101Y	C 100 OHM, J, 1/6W
R2402	QRD161J822Y	C 8.2KOHM, J, 1/6W	R2554	QRD161J103Y	C 10KOHM, J, 1/6W
R2403	QRD161J104Y	C 100KOHM, J, 1/6W	R2555	QRD161J473Y	C 47KOHM, J, 1/6W
R2404	QRD161J222Y	C 2.2KOHM, J, 1/6W	R2558	QRD161J473Y	C 47KOHM, J, 1/6W
R2405	QRV141F2611A	M 2.61KOHM, F, 1/4W	R2559	QRD161J103Y	C 10KOHM, J, 1/6W
R2406	QRD161J101Y	C 100 OHM, J, 1/6W	R2562	QRD161J182Y	C 1.8KOHM, J, 1/6W
R2407	QRD161J471Y	C 470 OHM, J, 1/6W	R2563	QRD161J471Y	C 470 OHM, J, 1/6W
R2408	QRV141F8871A	M 8.87KOHM, F, 1/4W	R2564	QRD161J333Y	C 33KOHM, J, 1/6W
R2409	QRD161J104Y	C 100KOHM, J, 1/6W	R2565	QRD161J101Y	C 100 OHM, J, 1/6W
R2410	QRD161J102Y	C 1KOHM, J, 1/6W	R2568	QRD161J223Y	C 22KOHM, J, 1/6W
R2411	QRD161J182Y	C 1.8KOHM, J, 1/6W	R2569	QRD161J823Y	C 82KOHM, J, 1/6W
R2412	QRD161J104Y	C 100KOHM, J, 1/6W	R2570	QRD121J102SY	C 1KOHM, J, 1/2W
R2413	QRD161J822Y	C 8.2KOHM, J, 1/6W	R2571	QRD121J102SY	C 1KOHM, J, 1/2W
R2414	QRD161J682Y	C 6.8KOHM, J, 1.6W	R2573	QRD161J184Y	C 180KOHM, J, 1/6W
R2415	QRD161J820Y	C 82 OHM, J, 1/6W	R2574	QRD161J184Y	C 180KOHM, J, 1/6W
R2416	QVPC611102HZ	CONTROL 1KOHMB	R2575	QRD161J184Y	C 180KOHM, J, 1/6W
R2417	QRD161J103Y	C 10KOHM, J, 1/6W	R2576	QRD161J822Y	C 8.2KOHM, J, 1/6W
R2418	QRD161J222Y	C 2.2KOHM, J, 1/6W	R2577	QRD161J222Y	C 2.2KOHM, J, 1/6W
R2419	QRX029J1R0	M 1 OHM, J, 2W	R2578	QRD161J103Y	C 10KOHM, J, 1/6W
R2420	QRG029J270	M 27 OHM, J, 2W	R2579	QRD161J471Y	C 470 OHM, J, 1/6W
R2422	QRG019J221S	M 220 OHM, J, 1W	R2580	QRD161J332Y	C 3.3KOHM, J, 1/6W
R2423	QRD161J273Y	C 27KOHM, J, 1/6W	R2581	QRD161J123Y	C 12KOHM, J, 1/6W
R2424	QRD161J223Y	C 22KOHM, J, 1/6W	R2582	QVPC611303HZ	CONTROL 30KOHMB
R2425	QRD161J101Y	C 100 OHM, J, 1/6W	R2583	QRD161J103Y	C 10KOHM, J, 1/6W
R2427	QRD161J562Y	C 5.6KOHM, J, 1/6W	R2584	QRD161J473Y	C 47KOHM, J, 1/6W
R2428	QRD161J153Y	C 15KOHM, J, 1/6W	R2585	QRD161J103Y	C 10KOHM, J, 1/6W
R2429	QRD161J183Y	C 18KOHM, J, 1/6W	R2586	QRD161J104Y	C 100KOHM, J, 1/6W
R2430	QRD161J393Y	C 39KOHM, J, 1/6W	R2587	QRD161J222Y	C 2.2KOHM, J, 1/6W
R2431	QRD161J683Y	C 68KOHM, J, 1/6W	R2588	QRD161J103Y	C 10KOHM, J, 1/6W
R2433	QRD161J101Y	C 100 OHM, J, 1/6W	R2589	QRD161J103Y	C 10KOHM, J, 1/6W
R2434	QRD161J103Y	C 10KOHM, J, 1/6W	R2591	QRD161J473Y	C 47KOHM, J, 1/6W
R2435	QRD161J153Y	C 15KOHM, J, 1/6W	R2601	QRD121J103SY	C 10KOHM, J, 1/2W
R2436	QRD161J103Y	C 10KOHM, J, 1/6W	R2602	QRD161J102Y	C 1KOHM, J, 1/6W
R2437	QRD161J103Y	C 10KOHM, J, 1/6W	R2603	QRD161J682Y	C 6.8KOHM, J, 1.6W
R2438	QRD161J103Y	C 10KOHM, J, 1/6W	R2604	QRD161J183Y	C 18KOHM, J, 1/6W
R2439	QRD161J222Y	C 2.2KOHM, J, 1/6W	R2606	QRD161J682Y	C 6.8KOHM, J, 1.6W
R2501	QRD161J683Y	C 68KOHM, J, 1/6W	R2607	QRD161J103Y	C 10KOHM, J, 1/6W
R2502	QRD121J103SY	C 10KOHM, J, 1/2W	R2608	QRD161J473Y	C 47KOHM, J, 1/6W
R2503	QVPC611502HZ	CONTROL 5KOHMB	R2609	QRD161J225Y	C 2.2MOHM, J, 1/6W
R2505	QRD161J225Y	C 2.2MOHM, J, 1/6W	R2610	QRD161J102Y	C 1KOHM, J, 1/6W
R2506	QRD161J101Y	C 100 OHM, J, 1/6W	R2611	QRD121J563SY	C 56KOHM, J, 1/2W
R2509	QRD161J225Y	C 2.2MOHM, J, 1/6W	R2612	QVPC611502HZ	CONTROL 5KOHMB
R2510	QRD161J102Y	C 1KOHM, J, 1/6W	R2613	QRD161J103Y	C 10KOHM, J, 1/6W
R2511	QRD121J272SY	C 2.7KOHM, J, 1/2W	R2615	QRD161J332Y	C 3.3KOHM, J, 1/6W
R2512	QRF074K4R7	F 4.7 OHM, K, 7W	R2616	QRD161J183Y	C 18KOHM, J, 1/6W
R2513	QRF074K4R7	F 4.7 OHM, K, 7W	R2701	QRD161J104Y	C 100KOHM, J, 1/6W
R2514	QRD121J472SY	C 4.7KOHM, J, 1/2W	R2705	QRD161J223Y	C 22KOHM, J, 1/6W
R2515	QRG029J272	M 2.7KOHM, J, 2W	R2706	QRD161J101Y	C 100 OHM, J, 1/6W
R2516	QRD121J392SY	C 3.9KOHM, J, 1/2W	R2707	QRD161J333Y	C 33KOHM, J, 1/6W
R2517	QRD161J471Y	C 470 OHM, J, 1/6W	R2708	QRD161J103Y	C 10KOHM, J, 1/6W
R2518	QRD161J331Y	C 330 OHM, J, 1/6W	R2709	QRD161J104Y	C 100KOHM, J, 1/6W
R2519	QRD121J562SY	C 5.6KOHM, J, 1/2W	R2710	QRD161J393Y	C 39KOHM, J, 1/6W
R2520	QRG029J102	M 1KOHM, J, 2W	R2712	QRD161J102Y	C 1KOHM, J, 1/6W
R2521	QRD161J151Y	C 150 OHM, J, 1/6W	R2713	QRD161J222Y	C 2.2KOHM, J, 1/6W
R2522	QRD121J104SY	C 100KOHM, J, 1/2W	R2714	QRV141F1962A	M 19.6KOHM, F, 1/4W
R2524	QRX029J1R8	M 1.8 OHM, J, 2W	R2715	QRV141F6801A	M 6.8KOHM, F, 1/4W

	Ref. No.	Part No.	Description		Ref. No.	Part No.	Description
△ △ △	R2801	QRG029J100	M 10 OHM, J, 2W		R5128	QRSA08J472YL	M 4.7KOHM, J, 1/10W
	R3301	QRD161J151Y	C 150 OHM, J, 1/6W		R5129	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3302	QRD161J151Y	C 150 OHM, J, 1/6W		R5130	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3303	QRD161J151Y	C 150 OHM, J, 1/6W		R5131	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3304	QRD161J181Y	C 180 OHM, J, 1/6W		R5132	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3305	QRD161J181Y	C 180 OHM, J, 1/6W		R5133	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3306	QRD161J181Y	C 180 OHM, J, 1/6W		R5134	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3310	QRG029J103	M 10KOHM, J, 2W		R5135	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3311	QRG029J103	M 10KOHM, J, 2W		R5136	QRSA08J102YL	M 1KOHM, J, 1/10W
	R3312	QRG029J103	M 10KOHM, J, 2W		R5137	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3313	QRG029J103	M 10KOHM, J, 2W		R5138	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3314	QRG029J103	M 10KOHM, J, 2W		R5139	QRSA08J221YL	M 220 OHM, J, 1/10W
	R3315	QRG029J103	M 10KOHM, J, 2W		R5140	QRSA08J221YL	M 220 OHM, J, 1/10W
	R3322	QRD149J102S	C 1KOHM, J, 1/4W		R5143	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3323	QRD149J102S	C 1KOHM, J, 1/4W		R5144	QRSA08J273YL	M 27KOHM, J, 1/10W
	R3324	QRD149J102S	C 1KOHM, J, 1/4W		R5145	QRSA08J273YL	M 27KOHM, J, 1/10W
	R3325	QRC121K681Z	C 680 OHM, K, 1/2W		R5146	QRSA08J273YL	M 27KOHM, J, 1/10W
	R3326	QRC121K681Z	C 680 OHM, K, 1/2W		R5148	QRSA08J273YL	M 27KOHM, J, 1/10W
	R3327	QRC121K681Z	C 680 OHM, K, 1/2W		R5149	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3331	QRD161J102Y	C 1KOHM, J, 1/6W		R5150	QRSA08J222YL	M 2.2KOHM, J, 1/10W
	R3341	QRD161J332Y	C 3.3KOHM, J, 1/6W		R5151	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3342	QRD161J332Y	C 3.3KOHM, J, 1/6W		R5153	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3343	QRD161J332Y	C 3.3KOHM, J, 1/6W		R5154	QRSA08J183YL	M 18KOHM, J, 1/10W
	R3501	QRC121K105Z	C 1MOHM, K, 1/2W		R5155	QRSA08J562YL	M 5.6KOHM, J, 1/10W
	R3502	QRC121K102Z	C 1KOHM, K, 1/2W		R5156	QRSA08J153YL	M 15KOHM, J, 1/10W
	R3503	QRC121K474Z	C 470KOHM, K, 1/2W		R5157	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3506	QRD122J274S	C 270KOHM, J, 1/2W		R5158	QRSA08J220YL	M 22 OHM, J, 1/10W
	R3507	QRG029J822	M 8.2KOHM, J, 2W		R5159	QRSA08J220YL	M 22 OHM, J, 1/10W
	R3508	QRD161J183Y	C 18KOHM, J, 1/6W		R5160	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3509	QRD161J472Y	C 4.7KOHM, J, 1/6W		R5161	QRSA08J103YL	M 10KOHM, J, 1/10W
	R3520	QRC121K225Z	C 2.2MOHM, K, 1/2W		R5201	QRSA08J272YL	M 2.7KOHM, J, 1/10W
	R4001	QVGA003CB14A	CONTROL 10KOHMB		R5202	QRSA08J391YL	M 390 OHM, J, 1/10W
	R4002	QVGA003CB14A	CONTROL 10KOHMB		R5203	QRSA08J182YL	M 1.8KOHM, J, 1/10W
	R4003	QVGA003CB14A	CONTROL 10KOHMB		R5204	QRSA08J272YL	M 2.7KOHM, J, 1/10W
	R4004	QVGA003CB14A	CONTROL 10KOHMB		R5205	QRSA08J271YL	M 270 OHM, J, 1/10W
	R4005	QVGA004CB14A	CONTROL 10KOHMB		R5206	QRSA08J182YL	M 1.8KOHM, J, 1/10W
	R4101	QRD161J181Y	C 180 OHM, J, 1/6W		R5207	QRSA08J272YL	M 2.7KOHM, J, 1/10W
	R4102	QRD161J333Y	C 33KOHM, J, 1/6W		R5208	QRSA08J471YL	M 470 OHM, J, 1/10W
	R4103	QRD161J333Y	C 33KOHM, J, 1/6W		R5209	QRSA08J182YL	M 1.8KOHM, J, 1/10W
	R4104	QRD161J333Y	C 33KOHM, J, 1/6W		R5210	QRSA08J273YL	M 27KOHM, J, 1/10W
	R4105	QRD161J333Y	C 33KOHM, J, 1/6W		R5211	QRSA08J0R0YL	M 0 OHM, J, 1/10W
	R4106	QRD161J333Y	C 33KOHM, J, 1/6W		R5212	QRSA08J273YL	M 27KOHM, J, 1/10W
	R5101	QRSA08J101YL	M 100 OHM, J, 1/10W		R5213	QRSA08J121YL	M 120 OHM, J, 1/10W
	R5102	QRSA08J101YL	M 100 OHM, J, 1/10W		R5214	QRSA08J273YL	M 27KOHM, J, 1/10W
	R5103	QRSA08J101YL	M 100 OHM, J, 1/10W		R5215	QRSA08J391YL	M 390 OHM, J, 1/10W
	R5104	QRSA08J101YL	M 100 OHM, J, 1/10W		R5216	QRSA08J273YL	M 27KOHM, J, 1/10W
	R5105	QRSA08J101YL	M 100 OHM, J, 1/10W		R5217	QRSA08J0R0YL	M 0 OHM, J, 1/10W
	R5106	QRSA08J101YL	M 100 OHM, J, 1/10W		R5301	QRSA08J683YL	M 68KOHM, J, 1/10W
	R5107	QRSA08J101YL	M 100 OHM, J, 1/10W		R5302	QRSA08J184YL	M 180KOHM, J, 1/10W
	R5108	QRSA08J101YL	M 100 OHM, J, 1/10W		R5303	QRSA08J562YL	M 5.6KOHM, J, 1/10W
	R5109	QRSA08J101YL	M 100 OHM, J, 1/10W		R5304	QRSA08J104YL	M 100KOHM, J, 1/10W
	R5110	QRSA08J103YL	M 10KOHM, J, 1/10W		R5305	QRSA08J684YL	M 680KOHM, J, 1/10W
	R5111	QRSA08J103YL	M 10KOHM, J, 1/10W		R5306	QRSA08J223YL	M 22KOHM, J, 1/10W
	R5112	QRSA08J103YL	M 10KOHM, J, 1/10W		R5307	QRSA08J103YL	M 10KOHM, J, 1/10W
	R5113	QRSA08J103YL	M 10KOHM, J, 1/10W		R5308	QRSA08J103YL	M 10KOHM, J, 1/10W
	R5114	QRSA08J103YL	M 10KOHM, J, 1/10W		R5309	QRSA08J223YL	M 22KOHM, J, 1/10W
	R5115	QRSA08J101YL	M 100 OHM, J, 1/10W		R5310	QRSA08J183YL	M 18KOHM, J, 1/10W
	R5116	QRSA08J101YL	M 100 OHM, J, 1/10W		R5311	QRSA08J103YL	M 10KOHM, J, 1/10W
	R5117	QRSA08J101YL	M 100 OHM, J, 1/10W		R5312	QRSA08J472YL	M 4.7KOHM, J, 1/10W
	R5118	QRSA08J101YL	M 100 OHM, J, 1/10W		R5401	QRSA08J222YL	M 2.2KOHM, J, 1/10W
	R5119	QRSA08J101YL	M 100 OHM, J, 1/10W		R5402	QRSA08J272YL	M 2.7KOHM, J, 1/10W
	R5120	QRSA08J122YL	M 1.2KOHM, J, 1/10W		R5403	QRSA08J222YL	M 2.2KOHM, J, 1/10W
	R5121	QRSA08J103YL	M 10KOHM, J, 1/10W		R5404	QRSA08J472YL	M 4.7KOHM, J, 1/10W
	R5122	QRSA08J272YL	M 2.7KOHM, J, 1/10W		R5405	QRSA08J472YL	M 4.7KOHM, J, 1/10W
	R5123	QRSA08J103YL	M 10KOHM, J, 1/10W		R5406	QRSA08J223YL	M 22KOHM, J, 1/10W
	R5124	QRSA08J103YL	M 10KOHM, J, 1/10W		R5407	QRSA08J273YL	M 27KOHM, J, 1/10W
	R5125	QRSA08J103YL	M 10KOHM, J, 1/10W		R5408	QRSA08J102YL	M 1KOHM, J, 1/10W
	R5126	QRSA08J103YL	M 10KOHM, J, 1/10W		R5409	QRSA08J563YL	M 56KOHM, J, 1/10W
	R5127	QRSA08J103YL	M 10KOHM, J, 1/10W		R5410	QRSA08J103YL	M 10KOHM, J, 1/10W
					R5501	QRSA08J101YL	M 100 OHM, J, 1/10W



	Ref. No.	Part No.	Description		Ref. No.	Part No.	Description
	R5502	QRSA08J101YL	M 100 OHM, J, 1/10W		R6317	QRD161J472Y	C 4.7KOHM, J, 1/6W
	R5503	QRSA08J101YL	M 100 OHM, J, 1/10W	△	R6318	QRD161J223Y	C 22KOHM, J, 1/6W
	R5504	QRSA08J101YL	M 100 OHM, J, 1/10W		R6601	QRD143J153SX	C 15KOHM, J, 1/4W
	R5701	QRSA08J221YL	M 220 OHM, J, 1/10W		R6602	QRD161J563Y	C 56KOHM, J, 1/6W
	R5702	QRSA08J221YL	M 220 OHM, J, 1/10W		R6603	QRD161J683Y	C 68KOHM, J, 1/6W
	R5703	QRSA08J221YL	M 220 OHM, J, 1/10W		R6604	QRD161J102Y	C 1KOHM, J, 1/6W
	R5704	QRSA08J221YL	M 220 OHM, J, 1/10W		R6611	QRD143J153SX	C 15KOHM, J, 1/4W
	R5705	QRSA08J221YL	M 220 OHM, J, 1/10W		R6612	QRD161J563Y	C 56KOHM, J, 1/6W
	R5706	QRSA08J221YL	M 220 OHM, J, 1/10W		R6613	QRD161J683Y	C 68KOHM, J, 1/6W
	R5707	QRSA08J221YL	M 220 OHM, J, 1/10W		R6614	QRD161J102Y	C 1KOHM, J, 1/6W
	R5708	QRSA08J221YL	M 220 OHM, J, 1/10W		R6621	QRD143J153SX	C 15KOHM, J, 1/4W
	R5709	QRSA08J221YL	M 220 OHM, J, 1/10W		R6622	QRD161J563Y	C 56KOHM, J, 1/6W
	R5710	QRSA08J221YL	M 220 OHM, J, 1/10W		R6623	QRD161J683Y	C 68KOHM, J, 1/6W
	R5711	QRSA08J221YL	M 220 OHM, J, 1/10W		R6624	QRD161J102Y	C 1KOHM, J, 1/6W
	R5712	QRSA08J221YL	M 220 OHM, J, 1/10W		R6631	QRD161J102Y	C 1KOHM, J, 1/6W
	R5713	QRSA08J221YL	M 220 OHM, J, 1/10W		R6632	QRD161J472Y	C 4.7KOHM, J, 1/6W
	R5714	QRSA08J221YL	M 220 OHM, J, 1/10W	△	R6641	QRD161J123Y	C 12KOHM, J, 1/6W
	R5715	QRSA08J102YL	M 1KOHM, J, 1/10W		R6642	QRD161J223Y	C 22KOHM, J, 1/6W
	R5716	QRSA08J221YL	M 220 OHM, J, 1/10W		R6644	QRD161J103Y	C 10KOHM, J, 1/6W
	R5717	QRSA08J221YL	M 220 OHM, J, 1/10W	△	R6645	QRD161J123Y	C 12KOHM, J, 1/6W
	R5718	QRSA08J221YL	M 220 OHM, J, 1/10W		R6646	QRD161J223Y	C 22KOHM, J, 1/6W
	R5719	QRSA08J221YL	M 220 OHM, J, 1/10W	△	R6648	QRD161J103Y	C 10KOHM, J, 1/6W
	R5720	QRSA08J221YL	M 220 OHM, J, 1/10W		R6701	QRV141F75R0A	M 75 OHM, F, 1/4W
	R5721	QRSA08J221YL	M 220 OHM, J, 1/10W	△	R6702	QRD161J331Y	C 330 OHM, J, 1/6W
	R5722	QRSA08J221YL	M 220 OHM, J, 1/10W		R6703	QRD161J223Y	C 22KOHM, J, 1/6W
	R5723	QRSA08J221YL	M 220 OHM, J, 1/10W		R6704	QRD161J123Y	C 12KOHM, J, 1/6W
	R5724	QRSA08J221YL	M 220 OHM, J, 1/10W		R6705	QRD161J272Y	C 2.7KOHM, J, 1/6W
	R5725	QRSA08J221YL	M 220 OHM, J, 1/10W		R6706	QRD161J221Y	C 220 OHM, J, 1/6W
	R5726	QRSA08J102YL	M 1KOHM, J, 1/10W		R6707	QRD161J273Y	C 27KOHM, J, 1/6W
	R5727	QRSA08J221YL	M 220 OHM, J, 1/10W		R6708	QRD161J222Y	C 2.2KOHM, J, 1/6W
	R5728	QRSA08J221YL	M 220 OHM, J, 1/10W		R6709	QRD161J121Y	C 120 OHM, J, 1/6W
	R5729	QRSA08J221YL	M 220 OHM, J, 1/10W		R6710	QRD161J183Y	C 18KOHM, J, 1/6W
	R5730	QRSA08J103YL	M 10KOHM, J, 1/10W		R6711	QRD161J333Y	C 33KOHM, J, 1/6W
	R5731	QRSA08J221YL	M 220 OHM, J, 1/10W		R6712	QRD161J153Y	C 15KOHM, J, 1/6W
	R5732	QRSA08J472YL	M 4.7KOHM, J, 1/10W		R6713	QRD161J272Y	C 2.7KOHM, J, 1/6W
	R5733	QRSA08J472YL	M 4.7KOHM, J, 1/10W		R6714	QRD161J680Y	C 68 OHM, J, 1/6W
	R6201	QRV141F75R0A	M 75 OHM, F, 1/4W		R6721	QRD161J473Y	C 47KOHM, J, 1/6W
	R6202	QRD161J121Y	C 120 OHM, J, 1/6W		R6722	QRD161J123Y	C 12KOHM, J, 1/6W
	R6203	QRD161J154Y	C 150KOHM, J, 1/6W		R6731	QRV141F75R0A	M 75 OHM, F, 1/4W
	R6204	QRD161J104Y	C 100KOHM, J, 1/6W		R6732	QRD161J331Y	C 330 OHM, J, 1/6W
	R6205	QRD161J332Y	C 3.3KOHM, J, 1/6W	△	R6733	QRD161J223Y	C 22KOHM, J, 1/6W
	R6211	QRV141F75R0A	M 75 OHM, F, 1/4W		R6734	QRD161J123Y	C 12KOHM, J, 1/6W
	R6212	QRD161J121Y	C 120 OHM, J, 1/6W		R6735	QRD161J272Y	C 2.7KOHM, J, 1/6W
	R6213	QRD161J154Y	C 150KOHM, J, 1/6W		R6736	QRD161J221Y	C 220 OHM, J, 1/6W
	R6214	QRD161J104Y	C 100KOHM, J, 1/6W		R6737	QRD161J273Y	C 27KOHM, J, 1/6W
	R6215	QRD161J332Y	C 3.3KOHM, J, 1/6W		R6738	QRD161J222Y	C 2.2KOHM, J, 1/6W
	R6220	QRD161J472Y	C 4.7KOHM, J, 1/6W		R6739	QRD161J121Y	C 120 OHM, J, 1/6W
	R6221	QRD161J820Y	C 82 OHM, J, 1/6W		R6740	QRD161J183Y	C 18KOHM, J, 1/6W
	R6222	QRD161J153Y	C 15KOHM, J, 1/6W		R6741	QRD161J102Y	C 1KOHM, J, 1/6W
	R6231	QRV141F75R0A	M 75 OHM, F, 1/4W		R6742	QRD161J561Y	C 560 OHM, J, 1/6W
	R6232	QRD161J221Y	C 220 OHM, J, 1/6W		R6744	QRD161J681Y	C 680 OHM, J, 1/6W
	R6233	QRD161J683Y	C 68KOHM, J, 1/6W		R6745	QRD161J152Y	C 1.5KOHM, J, 1/6W
	R6234	QRD161J184Y	C 180KOHM, J, 1/6W		R6746	QRD161J222Y	C 2.2KOHM, J, 1/6W
	R6235	QRD161J562Y	C 5.6KOHM, J, 1/6W		R6747	QRD161J821Y	C 820 OHM, J, 1/6W
	R6236	QRD161J392Y	C 3.9KOHM, J, 1/6W		R6748	QRD161J152Y	C 1.5KOHM, J, 1/6W
	R6239	QRD161J332Y	C 3.3KOHM, J, 1/6W		R6749	QRD161J182Y	C 1.8KOHM, J, 1/6W
	R6240	QRD161J680Y	C 68 OHM, J, 1/6W		R6750	QRD161J222Y	C 2.2KOHM, J, 1/6W
	R6251	QRD161J123Y	C 12KOHM, J, 1/6W		R6751	QRD161J472Y	C 4.7KOHM, J, 1/6W
	R6252	QRD161J123Y	C 12KOHM, J, 1/6W		R6752	QRD161J153Y	C 15KOHM, J, 1/6W
△	R6253	QRD161J223Y	C 22KOHM, J, 1/6W		R6753	QRD161J683Y	C 68KOHM, J, 1/6W
△	R6254	QRD161J223Y	C 22KOHM, J, 1/6W		R6761	QRV141F75R0A	M 75 OHM, F, 1/4W
	R6255	QRD161J333Y	C 33KOHM, J, 1/6W		R6762	QRD161J331Y	C 330 OHM, J, 1/6W
	R6301	QRV141F75R0A	M 75 OHM, F, 1/4W	△	R6763	QRD161J223Y	C 22KOHM, J, 1/6W
	R6302	QRD161J121Y	C 120 OHM, J, 1/6W		R6764	QRD161J123Y	C 12KOHM, J, 1/6W
	R6303	QRD161J393Y	C 39KOHM, J, 1/6W		R6765	QRD161J272Y	C 2.7KOHM, J, 1/6W
	R6304	QRD161J124Y	C 120KOHM, J, 1/6W		R6766	QRD161J221Y	C 220 OHM, J, 1/6W
	R6305	QRD161J562Y	C 5.6KOHM, J, 1/6W		R6767	QRD161J273Y	C 27KOHM, J, 1/6W
	R6306	QRD161J101Y	C 100 OHM, J, 1/6W		R6768	QRD161J222Y	C 2.2KOHM, J, 1/6W
	R6316	QRD161J122Y	C 1.2KOHM, J, 1/6W		R6769	QRD161J121Y	C 120 OHM, J, 1/6W

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
R6770	QRD161J183Y	C 18KOHM, J, 1/6W	R9053	QRX029JR56A	M 0.56 OHM, J, 2W
R6771	QRD161J821Y	C 820 OHM, J, 1/6W	R9054	QRD123J270SX	C 27 OHM, J, 1/2W
R6772	QRD161J561Y	C 560 OHM, J, 1/6W	R9060	QRF154K4R7	F 4.7 OHM, K, 1/5W
R6774	QRD161J681Y	C 680 OHM, J, 1/6W	R9061	QRG039J123	M 12KOHM, J, 3W
R6775	QRD161J152Y	C 1.5KOHM, J, 1/6W	R9062	QRG039J123	M 12KOHM, J, 3W
R6776	QRD161J222Y	C 2.2KOHM, J, 1/6W	R9063	QRG039J123	M 12KOHM, J, 3W
R6777	QRD161J821Y	C 820 OHM, J, 1/6W	R9064	QRG039J123	M 12KOHM, J, 3W
R6778	QRD161J152Y	C 1.5KOHM, J, 1/6W	R9065	QRG039J223	M 22KOHM, J, 3W
R6779	QRD161J182Y	C 1.8KOHM, J, 1/6W	CAPACITORS		
R6780	QRD161J222Y	C 2.2KOHM, J, 1/6W	CM001	QETC1HM474Z	E 0.47UF, M, 50V
R6781	QRD161J123Y	C 12KOHM, J, 1/6W	CM002	NCB21HK103AY	C 0.01UF, K, 50V
R6782	QRD161J153Y	C 15KOHM, J, 1/6W	CM003	NCB21EK104AY	C 0.1UF, K, 25V
R6783	QRD161J683Y	C 68KOHM, J, 1/6W	CM004	NCB21HK103AY	C 0.01UF, K, 50V
R6789	QRD161J221Y	C 220 OHM, J, 1/6W	CM005	NCB21HK332AY	C 3300PF, K, 50V
R6790	QRD161J221Y	C 220 OHM, J, 1/6W	CM101	QETC1HM474Z	E 0.47UF, M, 50V
R6791	QRD161J221Y	C 220 OHM, J, 1/6W	CM102	NCB21HK102AY	C 1000PF, K, 50V
R6792	QRD161J331Y	C 330 OHM, J, 1/6W	CM103	NCB21HK102AY	C 1000PF, K, 50V
R6793	QRD161J333Y	C 33KOHM, J, 1/6W	CM105	NCB21HK222AY	C 2200PF, K, 50V
R6794	QRD161J333Y	C 33KOHM, J, 1/6W	CM106	QFV71HJ334MZ	P 0.33UF, J, 50V
R6795	QRD161J102Y	C 1 KOHM, J, 1/6W	CM107	NCB21HK103AY	C 0.01UF, K, 50V
R6801	QRD161J123Y	C 12KOHM, J, 1/6W	CM108	NCB21HK102AY	C 1000PF, K, 50V
R6802	QRD161J123Y	C 12KOHM, J, 1/6W	CM109	NCB21HK102AY	C 1000PF, K, 50V
R6803	QRD161J123Y	C 12KOHM, J, 1/6W	CM110	NCB21HK103AY	C 0.01UF, K, 50V
R6804	QRD161J123Y	C 12KOHM, J, 1/6W	CM111	NCB21HK103AY	C 0.01UF, K, 50V
R6805	QRD161J101Y	C 100 OHM, J, 1/6W	CM112	NCB21HK222AY	C 2200PF, K, 50V
R6806	QRD161J101Y	C 100 OHM, J, 1/6W	CM113	NCB21HK223AY	C 0.022UF, K, 50V
R6807	QRD161J101Y	C 100 OHM, J, 1/6W	C1101	QETC1CM476Z	E 47UF, M, 16V
R6808	QRD161J101Y	C 100 OHM, J, 1/6W	C1102	NCB21HK103AY	C 0.01UF, K, 50V
R6809	QRD161J102Y	C 1 KOHM, J, 1/6W	C1103	NCB21HK103AY	C 0.01UF, K, 50V
R6810	QRD161J223Y	C 22KOHM, J, 1/6W	C1104	NCB21HK103AY	C 0.01UF, K, 50V
R9002	QRD122J474S	C 470KOHM, J, 1/2W	C1105	NCB21HK103AY	C 0.01UF, K, 50V
R9005	QRD123J104SX	C 100KOHM, J, 1/2W	C1106	NCB21HK103AY	C 0.01UF, K, 50V
R9006	QRD123J104SX	C 100KOHM, J, 1/2W	C1107	NCT03CH121AY	C 120PF, J, 50V
R9008	QRD161J103Y	C 10KOHM, J, 1/6W	C1108	NCT03CH470AY	C 47PF, J, 50V
R9009	QRD161J103Y	C 10KOHM, J, 1/6W	C1109	NCB21HK103AY	C 0.01UF, K, 50V
R9010	QRD161J561Y	C 560 OHM, J, 1/6W	C1110	NCB21HK103AY	C 0.01UF, K, 50V
R9011	QRD161J103Y	C 10KOHM, J, 1/6W	C1111	NCT03CH560AY	C 56PF, J, 50V
R9012	QRD161J470Y	C 47 OHM, J, 1/6W	C1112	NCB21HK103AY	C 0.01UF, K, 50V
R9013	QRD161J103Y	C 10KOHM, J, 1/6W	C1113	NCB21HK103AY	C 0.01UF, K, 50V
R9014	QRM059KR22	M 0.22 OHM, K, 5W	C1114	QEN61CM476Z	E 47UF, M, 16V
R9015	QRG039J563A	M 56KOHM, J, 3W	C1115	NCT03CH120AY	C 12PF, J, 50V
R9016	QRD123J182SX	C 1.8KOHM, J, 1/2W	C1116	NCT03CH560AY	C 56PF, J, 50V
R9020	QRD161J222Y	C 2.2KOHM, J, 1/6W	C1117	QAT3110300A	T 33PF, 100V
R9021	QRD161J104Y	C 100KOHM, J, 1/6W	C1118	NCB21HK103AY	C 0.01UF, K, 50V
R9022	QRD161J474Y	C 470KOHM, J, 1/6W	C1119	QETC1CM476Z	E 47UF, M, 16V
R9023	QRD161J393Y	C 39KOHM, J, 1/6W	C1120	QETC1CM476Z	E 47UF, M, 16V
R9026	QRD161J104Y	C 100KOHM, J, 1/6W	C1122	QAT3110300A	T 33PF, 100V
R9027	QRD161J182Y	C 1.8KOHM, J, 1/6W	C1123	NCT03CH101AY	C 100PF, J, 50V
R9028	QRD161J271Y	C 270 OHM, J, 1/6W	C1124	NCB21HK822AY	C 8200PF, K, 50V
R9029	QRD161J103Y	C 10KOHM, J, 1/6W	C1125	NCT03CH8R0AY	C 8PF, J, 50V
R9030	QRD123J100SX	C 10 OHM, J, 1/2W	C1201	NCB21HK103AY	C 0.01UF, K, 50V
R9031	QRD161J392Y	C 3.9KOHM, J, 1/6W	C1202	NCB21HK103AY	C 0.01UF, K, 50V
R9032	QRD161J392Y	C 3.9KOHM, J, 1/6W	C1203	NCT03CH680AY	C 68PF, J, 50V
R9034	QRV141F2202A	M 22KOHM, F, 1/4W	C1204	NCB21HK103AY	C 0.01UF, K, 50V
R9035	QRV141F1962A	M 19.6KOHM, F, 1/4W	C1205	NCT03CH820AY	C 82PF, J, 50V
R9037	QRV141F3901A	M 3.9KOHM, F, 1/4W	C1206	QAT3110450A	T 45PF, 100V
R9038	QVPC611102HZ	CONTROL 1KOHMB	C1207	QAT3110450A	T 45PF, 100V
R9039	QRD123J154SX	C 150KOHM, J, 1/2W	C1208	NCT03CH121AY	C 120PF, J, 50V
R9040	QRD161J103Y	C 10KOHM, J, 1/6W	C1209	QAT3110450A	T 45PF, 100V
R9041	QRD123J154SX	C 150KOHM, J, 1/2W	C1210	NCB21HK103AY	C 0.01UF, K, 50V
R9042	QRD123J183SX	C 18KOHM, J, 1/2W	C1211	NCT03CH221AY	C 220PF, J, 50V
R9043	QRD123J184SX	C 180KOHM, J, 1/2W	C1212	NCB21HK273AY	C 0.027UF, K, 50V
R9044	QRV141F3901A	M 3.9KOHM, F, 1/4W	C1213	NCB21HK103AY	C 0.01UF, K, 50V
R9045	QRV141F2701A	M 2.7KOHM, F, 1/4W	C1214	QETC1HM105Z	E 1UF, M, 50V
R9046	QRD161J563Y	C 56KOHM, J, 1/6W	C1215	QETC1HM474Z	E 0.47UF, M, 50V
R9047	QRD161J103Y	C 10KOHM, J, 1/6W			
R9048	QRV141F1501A	M 1.5KHOM, F, 1/4W			
R9050	QRD161J223Y	C 22KOHM, J, 1/6W			
R9051	QRD161J683Y	C 68KOHM, J, 1/6W			

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C1216	QETC1CM107Z	E 100UF, M, 16V	C1457	QEN61HM105Z	E 1UF, M, 50V
C1217	NCB21HK103AY	C 0.01UF, K, 50V	C1458	QEN61HM105Z	E 1UF, M, 50V
C1218	QEN61CM106Z	E 10UF, M, 16V	C1459	QETC1HM105Z	E 1UF, M, 50V
C1219	QFLC1HJ153MZ	M 0.015UF, J, 50V	C1460	QETC1HM105Z	E 1UF, M, 50V
C1220	NCB21HK103AY	C 0.01UF, K, 50V	C1461	QFV71HJ334MZ	P 0.33UF, J, 50V
C1221	NCT03CH270AY	C 27PF, J, 50V	C1462	NCB21HK102AY	C 1000PF, K, 50V
C1222	QAT3110300A	T 33PF, 100V	C1463	QFV71HJ224MZ	P 0.22UF, J, 50V
C1223	NCT03CH270AY	C 27PF, J, 50V	C1464	QFV71HJ224MZ	P 0.22UF, J, 50V
C1224	QAT3110300A	T 33PF, 100V	C1465	QFV71HJ224MZ	P 0.22UF, J, 50V
C1225	NCT03CH470AY	C 47PF, J, 50V	C1466	QETC1CM477Z	E 470UF, M, 16V
C1226	NCT03CH390AY	C 39PF, J, 50V	C1467	NCB21HK103AY	C 0.01UF, K, 50V
C1227	NCT03CH6R0AY	C 6PF, J, 50V	C1468	QETC1CM107Z	E 100UF, M, 16V
C1228	NCT03CH181AY	C 180PF, J, 50V	C1469	NCB21HK103AY	C 0.01UF, K, 50V
C1229	NCT03CH390AY	C 39PF, J, 50V	C1471	QETC1HM106Z	E 10UF, M, 50V
C1230	NCT03CH6R0AY	C 6PF, J, 50V	C1501	QETC1CM476Z	E 47UF, M, 16V
C1231	NCT03CH181AY	C 180PF, J, 50V	C1502	NCB21HK103AY	C 0.01UF, K, 50V
C1233	QETC1HM335Z	E 3.3UF, M, 50V	C1503	QEN61CM476Z	E 47UF, M, 16V
C1234	NCB21HK473AY	C 0.047UF, K, 50V	C1504	QEN61HM105Z	E 1UF, M, 50V
C1235	NCB21HK103AY	C 0.01UF, K, 50V	C1505	NCB21HK222AY	C 2200PF, K, 50V
C1236	QETC1CM476Z	E 47UF, M, 16V	C1506	QETC1HM335Z	E 3.3UF, M, 50V
C1237	NCB21HK103AY	C 0.01UF, K, 50V	C1507	QETC1HM335Z	E 3.3UF, M, 50V
C1238	NCB21HK223AY	C 0.022UF, K, 50V	C1508	NCB21HK103AY	C 0.01UF, K, 50V
C1239	NCB21HK103AY	C 0.01UF, K, 50V	C1509	NCB21HK103AY	C 0.01UF, K, 50V
C1240	NCB21HK393AY	C 0.039UF, K, 50V	C1510	QETC1HM106Z	E 10UF, M, 50V
C1241	QETC1HM106Z	E 10UF, M, 50V	C1511	NCB21HK222AY	C 2200PF, K, 50V
C1242	NCT03CH680AY	C 68PF, J, 50V	C1512	NCB21HK102AY	C 1000PF, K, 50V
C1301	QETC1CM476Z	E 47UF, M, 16V	C1513	NCT03CH101AY	C 100PF, J, 50V
C1302	QFV71HJ104MZ	P 0.1UF, J, 50V	C1516	NCT03CH181AY	C 180PF, J, 50V
C1303	QETC1HM105Z	E 1UF, M, 50V	C1517	NCT03CH820AY	C 82PF, J, 50V
C1304	QETC1CM476Z	E 47UF, M, 16V	C1551	QETC1AM107Z	E 100UF, M, 10V
C1305	QETC1CM476Z	E 47UF, M, 16V	C1552	NCB21HK473AY	C 0.047UF, K, 50V
C1306	QFV71HJ104MZ	P 0.1UF, J, 50V	C1553	NCB21HK473AY	C 0.047UF, K, 50V
C1307	QETC1HM105Z	E 1UF, M, 50V	C1554	NCB21HK473AY	C 0.047UF, K, 50V
C1308	QETC1CM476Z	E 47UF, M, 16V	C1555	NCT03CH391AY	C 390PF, J, 50V
C1309	NCT03CH8R0AY	C 8PF, J, 50V	C1556	NCT03CH331AY	C 330PF, J, 50V
C1331	QETC1CM476Z	E 47UF, M, 16V	C1557	NCB21HK222AY	C 2200PF, K, 50V
C1332	QFV71HJ104MZ	P 0.1UF, J, 50V	C1558	NCB21HK222AY	C 2200PF, K, 50V
C1333	QETC1HM105Z	E 1UF, M, 50V	C1559	NCT03CH180AY	C 18PF, H, 1.6KV
C1334	QETC1CM476Z	E 47UF, M, 16V	C1560	QAT3110450A	T 45PF, 100V
C1335	QETC1CM476Z	E 47UF, M, 16V	C1561	NCT03CH680AY	C 68PF, J, 50V
C1336	QFV71HJ104MZ	P 0.1UF, J, 50V	C1562	NCT03CH271AY	C 270PF, H, 1.6KV
C1337	QETC1HM105Z	E 1UF, M, 50V	C1563	NCT03CH680AY	C 68PF, J, 50V
C1338	QETC1CM476Z	E 47UF, M, 16V	C1564	NCT03CH121AY	C 120PF, J, 50V
C1361	QETC1CM476Z	E 47UF, M, 16V	C1565	NCT03CH391AY	C 390PF, J, 50V
C1362	QFV71HJ104MZ	P 0.1UF, J, 50V	C1567	QFP31HJ153SZ	P 0.015UF, J, 50V
C1363	QETC1HM105Z	E 1UF, M, 50V	C1568	NCB21HK222AY	C 2200PF, K, 50V
C1364	QETC1CM476Z	E 47UF, M, 16V	C1571	NCB21HK472AY	C 4700PF, K, 50V
C1365	QETC1CM476Z	E 47UF, M, 16V	C1572	QETC1HM106Z	E 10UF, M, 50V
C1366	QFV71HJ104MZ	P 0.1UF, J, 50V	C1601	QEHCM107MZ	E 100UF, M, 16V
C1367	QETC1HM105Z	E 1UF, M, 50V	C1602	NCB21HK103AY	C 0.01UF, K, 50V
C1368	QETC1CM476Z	E 47UF, M, 16V	C1603	QEHCM105MZ	E 1UF, M, 50V
C1381	QETC1CM476Z	E 47UF, M, 16V	C1604	QETC1HM106Z	E 10UF, M, 50V
C1382	NCB21HK473AY	C 0.047UF, K, 50V	C1605	QFV71HJ104MZ	P 0.1UF, J, 50V
C1383	NCB21HK103AY	C 0.01UF, K, 50V	C1607	QEHCM227MZ	E 220UF, M, 16V
C1401	QETC1CM476Z	E 47UF, M, 16V	C1608	QETB1EM228	E 2200UF, M, 25V
C1402	NCB21HK103AY	C 0.01UF, K, 50V	C1609	QETC1HM106Z	E 10UF, M, 50V
C1403	QEN61HM105Z	E 1UF, M, 50V	C1610	QFV71HJ104MZ	P 0.1UF, J, 50V
C1404	QETC1HM105Z	E 1UF, M, 50V	C1611	NCB21HK333AY	C 0.033UF, K, 50V
C1405	QETC1HM105Z	E 1UF, M, 50V	C1612	QEHCM475MZ	E 4.7UF, M, 50V
C1406	QFV71HJ104MZ	P 0.1UF, J, 50V	C1702	QFLC1HK473MZ	M 0.047UF, K, 50V
C1407	QFV71HJ104MZ	P 0.1UF, J, 50V	C2301	QFLC1HJ102MZ	M 1000PF, J, 50V
C1408	QETC1HM105Z	E 1UF, M, 50V	C2302	QEHCM106MZ	E 10UF, M, 50V
C1409	QETC1HM105Z	E 1UF, M, 50V	C2303	QFZ01174701S	P 4700PF, 2KV
C1410	QFV71HJ104MZ	P 0.1UF, J, 50V	C2304	QEHCM476MZ	E 47UF, M, 50V
C1451	QETC1CM476Z	E 47UF, M, 16V	C2305	QEN61CM106Z	E 10UF, M, 16V
C1452	NCB21HK103AY	C 0.01UF, K, 50V	C2402	QFLC1HJ823MZ	M 0.082UF, J, 50V
C1453	NCB21HK473AY	C 0.047UF, K, 50V	C2403	QETC1HM475Z	E 4.7UF, M, 50V
C1454	NCB21HK473AY	C 0.047UF, K, 50V	C2406	QEHCM107MZ	E 100UF, M, 16V
C1455	QETC1HM105Z	E 1UF, M, 50V	C2408	QEHCM227MZ	E 220UF, M, 50V
C1456	QEN61HM105Z	E 1UF, M, 50V			

	Ref. No.	Part No.	Description		Ref. No.	Part No.	Description
	C2409	QFV71HJ104MZ	P 0.1UF, J, 50V		C5102	NCB21HK103AY	C 0.01UF, K, 50V
	C2410	QFLB2AK154M	M 0.15UF, K, 100V		C5103	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2411	QCS31HJ821AZ	C 820PF, J, 50V		C5104	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2412	QFLC2AJ102MZ	M 1000PF, J, 100V		C5105	NCB21HK103AY	C 0.01UF, K, 50V
	C2413	QFLC1HJ153MZ	M 0.015UF, J, 50V		C5106	NCB21HK103AY	C 0.01UF, K, 50V
	C2414	QCS32HJ330AZ	C 33PF, J, 500V		C5107	NCB21HK103AY	C 0.01UF, K, 50V
	C2415	QEHC1VM107MZ	E 100UF, M, 35V		C5108	NCB21HK103AY	C 0.01UF, K, 50V
	C2416	QEHC1EM108MZ	E 1000UF, M, 25V		C5109	NCB21HK103AY	C 0.01UF, K, 50V
	C2417	QEHC1EM108MZ	E 1000UF, M, 25V		C5110	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2418	QEHC1EM477MZ	E 470UF, M, 25V		C5111	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2419	QEHC1EM227MZ	E 220UF, M, 25V		C5112	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2420	QEHC1CM337MZ	E 330UF, M, 16V		C5113	QEKCM476MZ	E 47UF, M, 16V
	C2421	QEHC1EM477MZ	E 470UF, M, 25V		C5114	NCT03CH330AY	C 33PF, J, 50V
	C2422	QEHBM1VM108M	E 1000UF, M, 35V		C5116	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2423	QEHC1CM107MZ	E 100UF, M, 16V		C5117	QEKCM107MZ	E 100UF, M, 6.3V
	C2501	QETC1CM107Z	E 100UF, M, 16V		C5118	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2502	QFP31HJ332SZ	P 3300PF, J, 50V		C5119	QEKCM107MZ	E 100UF, M, 6.3V
	C2503	QFLC1HJ222MZ	M 2200PF, J, 50V		C5120	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2504	QFV71HJ824MZ	F 0.82UF, J, 50V		C5121	QEKCM107MZ	E 100UF, M, 6.3V
	C2505	QFLC1HJ822MZ	M 8200PF, J, 50V		C5122	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2511	QFLC1HJ563MZ	M 0.056UF, J, 50V		C5123	QEKCM476MZ	E 47UF, M, 16V
	C2512	QFLC1HJ153MZ	M 0.015UF, J, 50V		C5124	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2513	QCS32HJ471AZ	C 470PF, J, 500V		C5126	NCF21HZ104AY	C 0.1UF, Z, 50V
	C2514	QFLC2AK104MZ	M 0.1UF, K, 100V		C5127	NCT03CH7R0AY	C 7PF, J, 50V
△	C2519	QFZ0119105S	P 1UF, 200V		C5128	NCF21HZ104AY	C 0.1UF, Z, 50V
△	C2520	QFZ0119304S	P 0.3UF, 200V		C5129	NCF21HZ104AY	C 0.1UF, Z, 50V
△	C2524	QFLC1HK104MZ	M 0.1UF, K, 50V		C5201	QEKCM105GM	E 1UF, M, 50V
△	C2525	QFZ01172001S	P 2000PF, 1.4KV		C5202	QEKCM105GM	E 1UF, M, 50V
	C2526	QEHC1EM108MZ	E 1000UF, M, 25V		C5203	QEKCM105GM	E 1UF, M, 50V
	C2527	QFLC1HJ473MZ	M 0.047UF, J, 50V		C5301	QEKCM106GM	E 10UF, M, 16V
	C2528	QEHC1CM108MZ	E 1000UF, M, 16V		C5302	QEKCM106GM	E 0.22UF, M, 50V
	C2529	QEHC1EM108MZ	E 1000UF, M, 25V		C5303	NCB21HK223AY	C 0.022UF, K, 50V
△	C2530	QFZ01177001S	P 7000PF, 1.4KV		C5304	QEKCM105GM	E 1UF, M, 50V
△	C2531	QFZ01174701S	P 4700PF, 2KV		C5401	QEKCM105GM	E 1UF, M, 50V
△	C2532	QFZ01177001S	P 7000PF, 1.4KV		C5402	QEKCM105GM	E 1UF, M, 50V
	C2533	QEHC1EM108MZ	E 1000UF, M, 25V		C5403	QEKCM105GM	E 1UF, M, 50V
	C2538	QEZ0195475MZ	E 4.7UF, M, 50V		C6201	QEKCM105GM	E 4.7UF, M, 50V
	C2539	QEHBM1CM228M	E 2200UF, M, 16V		C6202	QCS31HJ101AZ	C 100PF, J, 50V
	C2540	QETC1AM228Z	E 2200UF, M, 10V		C6203	QEKCM336MZ	E 33UF, M, 16V
	C2541	QETC1CM337Z	E 330UF, M, 16V		C6205	QEKCM475GM	E 4.7UF, M, 50V
	C2555	QCT25CH470Z	C 47PF, J, 50V		C6206	QCS31HJ101AZ	C 100PF, J, 50V
	C2556	QCT25CH680Z	C 68PF, J, 50V		C6207	QEKCM336MZ	E 33UF, M, 16V
	C2557	QCT25CH560Z	C 56PF, J, 50V		C6210	QCS31HJ101AZ	C 100PF, J, 50V
	C2558	QFV71HJ104MZ	P 0.1UF, J, 50V		C6220	QEKCM475GM	E 4.7UF, M, 50V
	C2559	QETC1CM107Z	E 100UF, M, 16V		C6221	QCS31HJ101AZ	C 100PF, J, 50V
	C2561	QEN61HM474Z	E 0.47UF, M, 50V		C6230	QFLC1HJ333MZ	M 0.033UF, J, 50V
	C2562	QEN61HM475Z	E 4.7UF, M, 50V		C6231	QFLC1HJ333MZ	M 0.033UF, J, 50V
	C2601	QFLC1HJ103MZ	M 0.01UF, J, 50V		C6281	QEKCM107MZ	E 100UF, M, 16V
	C2602	QEHC1CM107MZ	E 100UF, M, 16V		C6282	QEKCM107MZ	E 100UF, M, 16V
	C2603	QFV71HJ104MZ	P 0.1UF, J, 50V		C6283	QEKCM107MZ	E 100UF, M, 16V
	C2701	QETC1HM106Z	E 10UF, M, 50V		C6284	QEKCM107MZ	E 100UF, M, 16V
	C2702	QEHC1HM107MZ	E 100UF, M, 50V		C6285	QETC1CM476Z	E 47UF, M, 16V
	C2703	QEHC1CM337MZ	E 330UF, M, 16V		C6301	QFLC1HJ103MZ	M 0.01UF, J, 50V
	C2704	QEHC1EM107MZ	E 100UF, M, 25V		C6302	QCS31HJ101AZ	C 100PF, J, 50V
	C2705	QEN61EM107Z	E 100UF, M, 25V		C6601	QCS31HJ181AZ	C 180PF, J, 50V
	C2801	QEHBM1VM108M	E 1000UF, M, 35V		C6602	QCS31HJ181AZ	C 180PF, J, 50V
	C3301	QCS31HJ221AZ	C 220PF, J, 50V		C6603	QETC1HM105Z	E 1UF, M, 50V
	C3302	QCS31HJ221AZ	C 220PF, J, 50V		C6604	QCS31HJ390AZ	C 39PF, J, 50V
	C3303	QCS31HJ181AZ	C 180PF, J, 50V		C6605	QCS31HJ181AZ	C 180PF, J, 50V
	C3313	QFLC1HJ122MZ	M 1200PF, J, 50V		C6611	QCS31HJ181AZ	C 180PF, J, 50V
	C3321	QETC2EM105Z	E 1UF, M, 250V		C6612	QCS31HJ181AZ	C 180PF, J, 50V
	C3501	QETC2EM105Z	E 1UF, M, 250V		C6613	QETC1HM105Z	E 1UF, M, 50V
	C3503	QCZ0121102M	C 1000PF, P, 3KV		C6614	QCS31HJ390AZ	C 39PF, J, 50V
	C3504	QFLC1HJ333MZ	M 0.033UF, J, 50V		C6615	QCS31HJ181AZ	C 180PF, J, 50V
	C3505	QFP32GK563M	P 0.056UF, K, 400V		C6621	QCS31HJ181AZ	C 180PF, J, 50V
	C3506	QCS31HJ561AZ	C 560PF, J, 50V		C6622	QCS31HJ181AZ	C 180PF, J, 50V
	C4101	QEKCM107MZ	E 100UF, M, 6.3V		C6623	QETC1HM105Z	E 1UF, M, 50V
	C4102	QCZ0207104AZ	C 0.1UF, Z, 50V		C6624	QCS31HJ390AZ	C 39PF, J, 50V
	C5101	QEKCM476MZ	E 47UF, M, 16V		C6625	QCS31HJ181AZ	C 180PF, J, 50V

	Ref. No.	Part No.	Description		Ref. No.	Part No.	Description
	C6630	QCS31HJ181AZ	C 180PF, J, 50V		OTHERS		
	C6641	QETC1CM107Z	E 100UF, M, 16V		CF5101	CST8.00MTW	CRYSTAL
	C6701	QETC1HM475Z	E 4.7UF, M, 50V		CN1001	CHA401N25P-J	CONNECTOR
	C6702	QCS31HJ101AZ	C 100PF, J, 50V		CN1002	CHA401N25P-J	CONNECTOR
	C6703	QCS31HJ101AZ	C 100PF, J, 50V		CN6002	CHA401N25R-J	CONNECTOR
	C6704	QETC1CM476Z	E 47UF, M, 16V		CP2001	ICP-N75-Y	PROTECTOR
	C6707	QETC1CM476Z	E 47UF, M, 16V	△	DL1101	CE41577-002	DELAY LINE
	C6711	QETC1HM475Z	E 4.7UF, M, 50V		DL1102	CE40959-001	DELAY LINE
	C6712	QCS31HJ101AZ	C 100PF, J, 50V		DL1201	CE41489-001	DELAY LINE
	C6713	QCS31HJ101AZ	C 100PF, J, 50V	△	F9001	QMF51E2-4R0S	FUSE (4A)
	C6714	QETC1CM476Z	E 47UF, M, 16V		J6201	CEMB010-004	BNC CONNECTOR
	C6715	QCS31HJ101AZ	C 100PF, J, 50V		J6202	CEMB010-004	BNC CONNECTOR
	C6717	QETC1HM106Z	E 10UF, M, 50V		J6301	QMCC006-C01	CONNECTOR
	C6718	QCS31HJ101AZ	C 100PF, J, 50V		J6302	QMCC006-C01	CONNECTOR
	C6721	QCS31HJ150AZ	C 15PF, J, 50V		J6601	CEMN070-001	JACK
	C6722	QCS31HJ820AZ	C 82PF, J, 50V		J6602	CEMN070-001	JACK
	C6723	QCS31HJ221AZ	C 220PF, J, 50V		J6603	CEMN070-001	JACK
	C6731	QETC1HM475Z	E 4.7UF, M, 50V		J6701	CEMB010-004	BNC CONNECTOR
	C6732	QCS31HJ101AZ	C 100PF, J, 50V		J6702	CEMB010-004	BNC CONNECTOR
	C6733	QCS31HJ101AZ	C 100PF, J, 50V		J6801	QMCC502-C01	JACK
	C6734	QETC1CM476Z	E 47UF, M, 16V		K9902	CE41923-001	CORE
	C6735	QCS31HJ101AZ	C 100PF, J, 50V		K9903	CE41923-001	CORE
	C6737	QETC1HM106Z	E 10UF, M, 50V		K9905	CE42050-001Z	CORE
	C6738	QCS31HJ101AZ	C 100PF, J, 50V	△	LF9001	CE41775-003	LINE FILTER
	C6741	QCS31HJ150AZ	C 15PF, J, 50V	△	LF9002	CE41775-003	LINE FILTER
	C6742	QCS31HJ820AZ	C 82PF, J, 50V	△	PC9001	CNY17F-C1	PHOTO COUPLER
	C6743	QCS31HJ221AZ	C 220PF, J, 50V	△	RTL	FX-M004A	CIRCUIT BOARD (V. SAW MODULE)
	C6751	QETC1HM475GM	E 4.7UF, M, 50V	△	RTL	FX-1072A	CIRCUIT BOARD (SIGNAL)
	C6752	QCS31HJ101AZ	C 100PF, J, 50V		RTL	FX-2033A	CIRCUIT BOARD (DEFLECTION)
	C6781	QETC1CM227Z	E 220UF, M, 16V		RTL	FX-3037A	CIRCUIT BOARD (CRT SOCKET)
	C6783	QFLC1HJ104MZ	M 0.1UF, J, 50V		RTL	FX-4039A	CIRCUIT BOARD (FRONT CONTROL)
	C6784	QFLC1HJ104MZ	M 0.1UF, J, 50V		RTL	FX-5019A	CIRCUIT BOARD (MICOM)
	C6785	QETC1CM107Z	E 100UF, M, 16V		RTL	FX-6053A	CIRCUIT BOARD (INPUT)
△	C9001	QCZ9033472A	C 4700PF, M, 125V	△	RTL	FX-9043A	CIRCUIT BOARD (POWER)
△	C9002	QCZ9033472A	C 4700PF, M, 125V		RY9002	CESK026-001	RELAY
△	C9003	QFZ9035474M	M 0.47UF, M, 125V		S2501	QSS1F22-C09	PUSH SWITCH
△	C9004	QFZ9035474M	M 0.47UF, M, 125V		S4101	QSTL535-C01	PUSH SWITCH
△	C9005	QCZ9033472A	C 4700PF, M, 125V		S4102	QSTL535-C02	PUSH SWITCH
△	C9006	QCZ9033472A	C 4700PF, M, 125V		S4103	QSP4H11-C12Z	PUSH SWITCH
△	C9007	QCZ9033332A	C 3300PF, M, 125V		S4104	QSP4H11-C12Z	PUSH SWITCH
△	C9009	QCZ9033332A	C 3300PF, M, 125V		S4105	QSP4H11-C12Z	PUSH SWITCH
△	C9010	QEZ0144477R	E 470UF, M, 400V		S4106	QSP4H11-C12Z	PUSH SWITCH
	C9012	QCY32HK103A	C 0.01UF, K, 500V		S4107	QSP4H11-C12Z	PUSH SWITCH
	C9013	QCY32HK103A	C 0.01UF, K, 500V		S4108	QSP4H11-C12Z	PUSH SWITCH
	C9018	QEH1CM226MZ	E 22UF, M, 50V		S4109	QSP4H11-C12Z	PUSH SWITCH
	C9019	QFP31HJ152SZ	P 1500PF, J, 50V		S6201	QSS4C22-C02	SLIDE SWITCH
	C9020	QEH1CM105MZ	E 1UF, M, 50V		S6202	QSS4C22-C02	SLIDE SWITCH
	C9021	QFLC1HJ103MZ	M 0.01UF, J, 50V		S6203	QSS4C22-C02	SLIDE SWITCH
	C9022	QEH1CM475MZ	E 4.7UF, M, 50V		S6701	QSS4C22-C02	SLIDE SWITCH
	C9023	QFLC1HJ222MZ	M 2200PF, J, 50V		S6702	QSS4C22-C02	SLIDE SWITCH
	C9024	QCS31HJ121MZ	C 120PF, J, 50V		S6703	QSS4C22-C02	SLIDE SWITCH
	C9025	QEH1EM107MZ	E 100UF, M, 25V		S6704	QSS4C22-C02	SLIDE SWITCH
	C9026	QFLC1HJ473MZ	M 0.047UF, J, 50V		SK3001	CE42446-001	CRT SOCKET
	C9027	QEN61HM105Z	E 1UF, M, 50V	△	SW01	QSP4D21-C06	PUSH SWITCH
	C9029	QFLC1HJ472MZ	M 4700PF, J, 50V	△	TH9001	CEKP009-001	THERMISTOR
	C9036	QFLC1HJ103MZ	M 0.01UF, J, 50V	△	VA9001	ERZC10VK621G	VARIATOR
	C9038	QEH1EM338M	E 3300UF, M, 25V	△	X1201	CE40668-001	CRYSTAL
	C9039	QEH1EM228M	E 2200UF, M, 25V		X1202	CE41953-001	CRYSTAL OSC
	C9040	QETC1AM227Z	E 220UF, M, 10V				
	C9043	QETC1AM107Z	E 100UF, M, 10V				
	C9044	QETC1HM476Z	E 47UF, M, 50V				
	C9046	QEH1CM227M	E 220UF, M, 160V				
	C9049	CEX41161-001	ELECTROLYTIC CAPACITOR				
	C9050	CEX41161-001	ELECTROLYTIC CAPACITOR				
	C9051	CEX41161-001	ELECTROLYTIC CAPACITOR				
	C9516	QETB2AM477	E 470UF, M, 100V				
	C9517	QETB2AM477	E 470UF, M, 100V				



## Memo

